



VOLUME 7

THE ARID AREAS PROGRAMME

**ECONOMIC POTENTIAL IN SOUTH AFRICA'S ARID AREAS:
A SELECTION OF NICHE PRODUCTS AND SERVICES**

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A. INTRODUCTION

Arid areas are often seen as economically debilitated areas, with little potential for investment. Consequently, there is an assumption that many people want to leave these areas for more populous and well-watered area.

There are three fallacies regarding this assumption:

- That arid areas have little economic potential
- That more populous and well-watered areas will remain sufficient as regards water supply – an assumption which may be challenged by patterns of global warming
- That more populous areas can absorb more people economically, and create meaningful livelihoods for them.

In fact, it may be necessary to apply our minds to making the most of the existing potential of arid areas and reassessing their potential. We need to find out how “people can live well in a desert”.

In other countries, such as Australia and Israel, desert economies are now regarded as assets, in which specific products can be produced profitably. This, in turn, is an argument for investment in infrastructure and human resources (education, skills training, and health services). In fact, desert economies can carry significant populations sustainably, as long as appropriate technologies for water consumption are employed.

South Africa’s arid areas (Karoo, Kalahari, Namaqualand) are not “deserts” in the extreme sense of the word – although they are certainly fairly arid. In many cases, our arid areas have significant underground water resources, substantial vegetation, and a diverse animal population. Our arid areas can support livestock farming and limited crop production.

However, in at least some of the provinces which contain such arid areas (Western Cape, Eastern Cape, Northern Cape and Free State), the arid areas are regarded as economically marginal areas – “areas lacking in potential”, as expressed by the National Spatial Development Perspective (NSDP). This is a consequence of the rapid migration from these areas to more populous areas. However, it is a logical error to regard the rapid out-migration as an indication of a lack of economic potential. It may simply be the case that the economic potential of the arid areas has never systematically been explored, and consequently there have not been sufficient or appropriate economic investments in these areas. Private sector investments in the Karoo are primarily based on sheep farming (wool and mutton), goats and mohair. Lately, small tourist enterprises have been established.

Before the arid areas can be dismissed as areas “lacking in economic potential”, a process of scientific investigation and economic discussion needs to take place. This paper forms the basis of such a discussion. It itemises some of the possible types of products which can be used to underpin a desert economy.

In addition, the possibilities of agglomeration of desert products need to be considered. ‘Business clustering’ is a concept that has been pioneered in the Australian Outback. It might well afford interesting possibilities for South African entrepreneurs. The Desert Knowledge Australia (DKA) Cross Border Business Networks project links together over 300 businesses, in four industry clusters, across five regions of desert Australia. The project is based on business clustering - usually specialising in a specific industry niche and limited geographical location. According to the DKA Networking Manager, Mike Crowe, "In this era of globalisation, sustainable desert settlements need to be home to businesses that have built their competitiveness to service distant customers, and by so doing are pulling wealth into their communities." Desert Knowledge Australia is now developing the concept for an expanded and enhanced cross border business networking project, involving nine regions across desert Australia, and 28 project partners.¹

The study will ask the following key questions:

1. What desert-oriented economic activities are currently being undertaken in the arid areas of South Africa?
2. Based on international examples, what other desert-oriented activities could be considered for South African conditions?

The methodology involved:

- an internet survey of desert-oriented agricultural products, some based on international examples
- an internet survey of appropriate tourism products in arid areas
- an overview of agricultural products in arid areas, based on media articles
- an overview of tourism products in arid areas, based on travel magazines and brochures.
- an overview of relevant academic or semi-academic books and articles.

For each type of service or product, the following types of information was looked for:

- Where is it currently being produced or offered (international or local sites)
- Who is producing it (e.g. small-scale investors, large corporations, government departments, public-sector investment corporations, indigenous peoples)
- Where is the main market for such products or services located? Who consumes or appreciates such products or services?

The report is in the form of a scoping study. It does not pretend to be exhaustive and it is more concerned to flag potential areas of interest than it is to provide a detailed analysis. It

¹ <http://www.theage.com.au/news/Business>

supplies a cursory overview of as many products and services as possible (with the signal exception of the goat, mutton, wool, beef and associated industries which are too large and well established to warrant any introduction here) and the report may serve as a base which can be augmented on an ongoing basis as new information, especially concerning so-called ‘niche’ or ‘new generation’ products, comes to light.

B. BRAND NAMES

The following brand names may *each* be worth literally billions of rand over time: “Karoo”, “Kalahari”, “Namaqua”, “Camdeboo”, “Hantam”, and “Gariep”. These names resonate with a distinctively South African mystique and authenticity.

There is currently a movement (jointly supported by the University of Pretoria and the Western Cape Department of Agriculture) to investigate ways to protect the ‘Karoo Lamb’ brand. It is envisaged that this initiative will be extended in due course to cover all products which can legitimately lay claim to being of ‘Karoo’ origin. The committee recently held an important meeting in Beaufort West to find a *modus operandi* for advancing its mission but it is, to say the least, a daunting and challenging undertaking.

This task group was established partly to obviate the fiasco that ensued over the American appropriation of the *Rooibos Tea* brand², and which cost the Rooibos Tea Growers Association some R6-million in legal fees to recover. Rooibos tea producers had found themselves in the anomalous position of having to pay royalties on their sales to an American company with no links to the industry other than a dubiously acquired patent on the brand.

There is anecdotal evidence that some of these brands are already being ‘pirated’ (eg. ‘Karoo lamb’ coming from Mpumalanga and ‘Karoo *beskuit*’ from Cape Town). The “Karoo Mark Eisen” designer label (125 000 ‘hits’ on Google) belongs to a fashion house based in New York whose sole claim to Karoo involvement appears to be that its founder was born in Cape Town and likes the image of the Karoo as a place of mystery and mystique. The protection of the value tied up in South Africa’s arid areas’ brands is a matter that requires support and very urgent attention from potential stakeholders.

² *Farmer’s Weekly*, 27 Apr 2007, “Honeybush – SA’s herbal tea is healthy and in hot demand”, p. 48.

C. AGRICULTURE AND AGRO-PROCESSING

1. Liquorice

A CSIR community project at Dysselsdorp, outside Oudtshoorn, undertakes the extraction of liquorice from the liquorice plant. The extract is then distributed to clients in South Africa and abroad.

It is the only liquorice extraction works in the country and profits are used for the benefit of the Dysselsdorp community. The liquorice plant flourishes along the Olifants River, about 25km from Oudtshoorn.

Liquorice is a sought after product with a proven market. The liquorice works is an innovative business with the potential for further growth to the advantage of the local community. Currently seven people are permanently employed and more than 200 people are employed seasonally.³

2. Prosopis and other alien invaders

It has been found that the Prosopis tree, an invasive alien which now occupies 1.8-million ha especially in the Northern Cape, may have medicinal properties which could be turned to commercial account.⁴

Prosopis pips form the chief ingredient of a remedy which helps to stabilise the blood sugar levels of diabetics. Dune Foods at Prieska was originally engaged in research for the Working for Water programme in the use of Prosopis wood for charcoal. The export possibilities were also investigated but it was while American researchers were assessing the possibilities of using Prosopis pods as animal feed that it was found that the seeds' protein value stood at 41%. Further research at the CSIR indicated applications for human consumption and a product called 'Manna' was manufactured, of which 15 percent consists of Prosopis seeds.

The possibility of a co-operative is being investigated and the possibility exists that Prosopis may be managed and harvested instead of being eradicated. The harvesting of the pods would also help curb the dissemination of the seeds by livestock. One hundred tons of pips were used in 2007 to manufacture Manna. Unfortunately, of the 42 varieties of Prosopis, only three are fit for reprocessing. At this stage, this is concentrated around Carnarvon, Vanwyksvlei and Kenhardt.

³ <http://www.spoedwel.com/index.cfm>

⁴ *Landbouweekblad*, 8 Sep 2006, "Indringerplant eers vyand, nou vriend", pp. 26-27.

The raw material for the Manna tablets is sent to a company in Cape Town for processing, whereupon the finished tablets are returned to Prieska for distribution. Negotiations are being conducted with an American company for the export of the pod waste as fodder for horses. This is also used for compost.

The tablets for diabetics have undergone tests at the University of Arizona in America and at the University of the Free State. The product has been endorsed by the Diabetics Association of South Africa. The product is uniquely South African and no equivalent as yet exists anywhere in the world. Negotiations are afoot to market the tablets internationally. Manna is also being pushed as helping to combat high blood pressure and cholesterol.

A “Weedbuster Week” was recently staged by DWAF, as part of its Working for Water (WfW) programme, at Pella in the Northern Cape.⁵ It was pointed out that Alien Invasive Plants (AIP) have “invaded over 10-million ha of SA” and that “uncontrolled, this area could double in 15 years”. WfW claims to employ and train over 30 000 previously unemployed people a year and to have over 300 clearing sites where 150 000ha of AIP were cleared during 2006/7.

The main problem at Pella is *Prosopis*. But Pella’s eradication efforts have proved to be in vain because the AIP is left undisturbed on the Namibian side of the river bank with the result that it keeps re-establishing itself. This serves as a good case study example of the frequent need for holistic approaches that transcend borders. Although Namibia seems not to have any WfW equivalent, what it *does* have is a thriving charcoal industry that uses AIP.⁶

WfW has added a Secondary Industries programme to “add value to AIP clearance”. “AIP wood is used for fuel and to make lampshades, furniture, key racks and jewellery boxes”. The trick with any such enterprises is of course effective marketing and distribution to encourage ongoing manufacture.

3. Ostrich leather

Klein Karoo represents more than 800 farmer members and is the biggest supplier of ostrich leather in the world. The International Leather Marketing Division is the only ostrich leather manufacturer which offers its products in 37 standard colours in its range of more than 300 items.

Ostrich leather processing at Klein Karoo Co-operative near Oudtshoorn has advanced greatly since ostrich skins were first processed there in 1970. Since 1945, Klein Karoo has accumulated a wealth of knowledge about ostriches. Technological advancements and ongoing research have enabled the organisation to produce the very best exotic leather –

⁵ *Farmer’s Weekly*, 9 Nov 2007, “DWAF turns weeds into jobs”, pp. 64-65.

⁶ *Landbouweekblad*, 2 Feb 2006, “Houtskool red weiding van bosse”, pp. 22-24.

from farm reared ostriches only. Today this leather is supplied to the most discerning buyers from around the world.

Leather is demanded by manufacturers and designers around the globe for fashion garments; fashion accessories; automotive products; furniture products; stationery; interior decoration; and gifts and hobbies. More than 15 finishes including Saddle, Classic, Brush-off and Plunge and almost 400 colors, best suited for unique applications are on offer. Legskins are available in the full variety of popular colors and different finishes e.g. Glazed, Brush-Off, Safari and Saddle.⁷

The demand for ostrich leather from the USA is fairly strong. It is mainly used for cowboy boots. It is still a challenge to acquaint consumers with ostrich leather in many parts of the world and the competition from crocodile and snake leather is strong. South Africa exports about 250 000 skins a year.⁸

The CEO of the SA Ostrich Chamber recently participated in a trade mission to Moscow as part of a DTI initiative to “create new market opportunities.”⁹ Apparently Russian consumers have become very style- and quality-conscious and were impressed by the processes and products of the SA ostrich industry. President Putin was presented with an ostrich-leather briefcase and it is felt that “the export of ostrich leather will be much easier than negotiating trade agreements for meat, as the product is not in competition with any local Russian products.”

4. Ostrich feathers

Klein Karoo International (KKI) Ostrich Feathers offer modern sorting, sizing and warehousing facilities. Up to 350 000kg of feathers are processed annually. About 80 percent of the world’s quality ostrich feathers are handled by KKI.

Feathers are classified and graded for calculation of payment offers to producers. At this point feathers are pooled per grade pending the sorting and sizing. Members are continuously advised regarding proper harvesting, handling and presentation of optimum value feathers. A Feather Caring and Harvesting Code, compiled in co-operation with the South African SPCA, ensures that the complete process is carried out in accordance with international prescriptions.

KKI operates a modern dye-house for the bleaching and dyeing of feathers. A unique process enables KKI to dye even body feathers in an ever growing range of bright colours. These are applied to create modern fashion garments, interior design, dusters (including computer, car

⁷ <http://www.spoedwel.com>.

⁸ *Landbouweekblad*, 19 Okt 2007, “Volstruisbedryf maak sy nek styf”, p. 34.

⁹ *Farmer’s Weekly*, 15 Jun 2007, “SA ostriches get a foothold in Russia”, p. 20.

and telescopic dusters) as well as tourist gifts.¹⁰ Apparently demand for feathers is good and a farmer can realize about R130 per bird from the feathers although the price is extremely volatile (prices in excess of R200 have been achieved). About 7% of the value a farmer realizes from an ostrich is from the feathers.¹¹

The Klein Karoo Group is involved in four different feather sorting projects in and around Oudtshoorn. On the initiative of local entrepreneurs, the Klein Karoo International Feather Division became involved with the Saartjie Baartman Development Center Project; the Dudley Brandt Feather Sorting Project; the Dysselsdorp Christian Women's Society Project; and the Best Barber Feather Sorting Project.

Klein Karoo joined forces with these groups to provide work for between 100 and 200 people. Experienced sorters from the Feather Division were seconded to train the novices. Their expert guidance as well as weekly inspections by senior staff ensures that the work meets exacting standards. The feathers that are sorted at these projects are excess feathers which Klein Karoo receives. The four projects solve a major problem in that the feathers they sorting were causing bottlenecks in Klein Karoo's main sorting division.¹²

5. Ostrich meat

Klein Karoo produces low fat, exotic, delicious, and healthy premium quality red meat. All ostriches are reared in pens under tranquil conditions and pose no threat to those ostriches living in the wild. The ostrich producers practice scientific farming methods. A strict vaccination and dipping programme, which is monitored by qualified vets as well as the Directorates of Animal Health and Veterinary Public Health, ensures that each bird remains healthy right up to the point of slaughtering on the set date.

The global demand for ostrich meat has escalated with the international trend towards healthier eating, as it is virtually fat free and low in calories and cholesterol but rich in protein. The prime cuts, fillet and steak, are versatile favourites for roast dishes, grills and schnitzels. Neck (for stews and soups) and goulash (for stews, stir-fry dishes or tacos) are increasing in popularity, as is ostrich liver from which a delectable pâté can be made. Ostrich biltong and *droe wors* is also produced.

Meat is exported fresh-frozen as well as pre-cooked to accommodate out-of-season demand. KKI's slaughter facilities include three state of the art abattoirs of which two are situated in Oudtshoorn.

Both abattoirs in Oudtshoorn are for the slaughter of ostriches exclusively. All abattoirs comply with stringent hygienic controls stipulated by importing countries. All slaughtering

¹⁰ <http://www.spoedwel.com>.

¹¹ *Landbouweekblad*, 19 Okt 2007, "Volstruisbedryf maak sy nek styf", p. 34.

¹² <http://www.spoedwel.com>

takes place under the supervision of a team of inspectors from the South African Directorate of Veterinary Public Health. They work closely with their overseas counterparts to ensure that international health regulations are met.¹³

In the 12 month period after October 2006, 4000 tons of ostrich meat was exported to the European Union, after ban on imports (due to bird-flu) to the EU was lifted. These periodic bans are very disruptive insofar as order flow from overseas supermarkets is concerned. The farmer typically makes about R2000 out of a slaughter ostrich but this includes the feathers and the skins. About 90% of the country's ostrich output finds its way to stores in Europe.¹⁴

The Klein-Karoo group holds a 70% share of the world's ostrich market and recorded a R7-million profit for the 2004/5 financial year notwithstanding a ban on the export of ostrich products from SA due to bird-flu.¹⁵

6. Seed production and marketing

Klein Karoo Seed Production (KKSP) is a specialized seed production company situated in the Klein Karoo in the Western Cape. They specialize in contract production of a wide range of vegetable seeds, forage and pasture seeds and agronomy seeds for seed companies worldwide. KKSP is not involved in any breeding activities or distribution of seed and is strictly involved with seed production.

Gellman Seeds is a vegetable seed distribution company based in Oudtshoorn. They are involved in the distribution of a wide range of OP and hybrid vegetable seeds in South Africa, Africa, the Middle East and South East Asia. They focus on wholesale and also pre-packed seed under the brand name Afrigro, as well as other recognized brands.¹⁶

The Klein Karoo is said to be one of “only a few places in the world suitable for organic seed production.”¹⁷ This is partly because “several mountain ranges separate the land, helping to prevent agrichemical contamination and cross-pollination from neighbouring non-organic farms”. Certified-organic seed is important for producers wishing to retain their certified-organic status.¹⁸ It is said that organic seed “can even be produced in people's backyards and then sold to a central marketing agent.”

¹³ <http://www.spoedwel.com>.

¹⁴ *Landbouweekblad*, 19 Okt 2007, “Volstruisbedryf maak sy nek styf”, p. 34.

¹⁵ *Farmer's Weekly*, 25 Nov 2005, “Karoo Group triumphs despite bird flu”, p. 17.

¹⁶ <http://www.spoedwel.com/>

¹⁷ *Farmer's Weekly*, 30 Sep 2005, “Sowing seeds of job creation”, p. 60.

¹⁸ *Farmer's Weekly*, 20 May 2005, “Karoo organic meat: a cut above the rest”, pp 34-35 deals with organic meat farming by members of the Holistic Management Club in the Graaff-Reinet district. “... farming organically has long-term ecological and economic benefits...[and] improves the carrying capacity of the land and makes meat tastier and more tender.”

Henry Coetzee who farms near Prieska claims that the area is just as suitable for seed production as is the Klein Karoo.¹⁹ Coetzee has been producing onion and carrot seed since 1995. His income from a hectare producing seed (about R68 000) is the equivalent of 8 ha under maize. This is not an easy market to penetrate and very close management is essential if one is not to lose one's entire crop. The business is also highly labour intensive and all planting and harvesting has to be done by hand.

For indigenous seed used in the restoration of degraded lands see the Renu-Karoo write-up in Section I of this report.

7. Fruit production

Members of the Klein Karoo Group are involved with the cultivation and production of stone and deciduous fruit. Fruit related services and materials are supplied to these growers by Klein Karoo Trade (KKT). KKT's business involves domestic fruit marketing, export fruit and the development and supply of packaging materials.

In the Klein Karoo, the fruit season starts with the delivery of nectarines in October. These are followed by apricots from November until mid-December. From December until March every year is the time for plums. Some of the very best table grapes are delivered from December until April every year. KKT services the areas of Ladismith, Prince Albert, Oudtshoorn and Calitzdorp.

There are state-of-the-art collection facilities at Ladismith where the infrastructure includes a cooling area of almost 800 square meters. Three of the smaller cool rooms are equipped for the forcing of grapes to ensure that cooling to the required international standards is done within the set time frames.

Fruit produced in the Klein Karoo region is mostly destined for Europe, Middle East, and the UK. Exports of this nature might conceivably be impacted in future by overseas consumers who are sensitive to a product's 'carbon footprint'.²⁰

Farmers in the Benede-Oranje district around Upington are supplying table grapes to overseas markets and are constantly experimenting with and improving the cultivars they plant.²¹

¹⁹ *Landbouweekblad*, 4 Aug 2006, "Saadkwekery verg deeglike bestuur", pp 24-25.

²⁰ <http://www.spoedwel.com>.

²¹ *Landbouweekblad*, 5 Oct 2007, "Hy gee oorsese market wat hulle vra", p. 30.

8. Hoodia (Ghaap)

Hoodia gordonii is a type of leafless succulent (not a cactus) belonging to the *asclepiadaceae* family. It grows in semi-arid areas of southern Africa, especially the Kalahari desert. It forms multi-stemmed clumps 45cm high and bears foul-smelling, pale purple disc-shaped flowers about 7.5 to 10cm in diameter.

It was first recorded by Col. R.J. Gordon (hence the name *gordonii*) while exploring the Orange River in 1776. The San Bushmen would eat the bitter-tasting plant on long hunting expeditions to stave off hunger pangs. *Hoodia gordonii* is marketed as “the plant with the new wonder ingredient that curbs your appetite, ups your mood and helps you to slim”. *Hoodia gordonii* has no known side-effects. Its active ingredient is a molecule, dubbed p57, which fools the brain into believing one is not hungry.²²

Hennie van Zyl of Redelinghuys has sown about 500 000 *hoodia* plants in nurseries on his farm and sells the seeds at 50 cents apiece. He claims that this works out at about R90 000 per kg.²³ To establish a hectare of *hoodia* in tunnels costs about R80 000, but it is conservatively estimated that this could generate a turnover of R1-million with two years. The price for dried *hoodia* oscillates between R500 and R1000 per kg although prices of up to R1500 have been obtained. *Hoodia* needs little labour overhead. The seeds are sown between December and April in well-drained ground. Within 18 months the plant will weigh 2 kg when planted in tunnels, compared to the wild, where the plant gains only about 300g a year. Upon harvesting, the plant is dried for 24 hours at 40 deg C.

Van Zyl reports that the industry is riven with political intrigues. Illegal harvesting of plants in the wild is endemic to the point where the species is threatened. Growers must register with CapeNature before they apply for membership of the South African Hoodia Growers Association. There is much uncertainty over the market for the product, due to the USA being flooded with fake products (thought to originate from China) claiming to contain *hoodia*. This has bedevilled *bona fide* producers’ attempts to get a foothold in the American market and export was suspended in May 2007.

Notwithstanding these teething problems, the worldwide demand for the product is huge (it has apparently been endorsed by Oprah Winfrey) and the prospects for commercial production must be good once the issue of standards has been tackled. Apparently the San get a kind of royalty of R24 per kg on the sold product and the unethical practices resorted to by Chinese ‘suppliers’ to the USA are therefore impacting on these people’s incomes. But in the longer run, the development of ethics in the industry will strengthen its place in the market.²⁴

²² <http://www.annique.com/products/slimming/hoodiagordonii.html>

²³ *Landbouweekblad*, 6 Jul 2007, “Wêreld ‘dieet’ hom knuppeldik aan ghaap”, pp 4-6.

²⁴ *Farmer’s Weekly*, 22 Jun 2007, “Farmers welcome US hoodia clean-up”, p. 19.

9. Leather works

Central Karoo Leather operates from Laingsburg and Beaufort West. At this point it is still a poverty alleviation project but the hope is that it will grow into a self-sustaining business. A staff of 40 people produces “a variety of key-fobs, purses bags, sandals, slippers and sun-visors”. The market is still limited to passing trade but the intention is to link with retail outlets in due course.²⁵

10. Hydroponics

Beaufort-West Hydroponics²⁶ produces basil, coriander, baby spinach, swiss chard, rocket, rosemary, rosa tomatoes, cherry tomatoes, and green beans. This is a poverty alleviation project managed by a Mr Keith Miller. There are five greenhouses with associated infrastructure. The main customer is said to be Woolworths.

11. Agave

According to the Boyce Thompson Arboretum in arid Arizona in the USA:

“Today, we are rediscovering the value of familiar dryland plants and are exploring new ways to capitalize on their economic and agricultural resources for the world's arid regions. The lives of desert-dwelling people worldwide are closely linked with their region's vegetation.

The agave is an example of a plant that has long been associated with the economy and culture of southwestern indigenous people and Mexicans. They used the agave's leaf fiber to make rope, baskets, mats, thatching and coarse cloth. Young flower stalks and fruit were eaten, and the heart of the plant was roasted as a staple food. The plant's sweet sap was fermented into intoxicating beverages.

The clear wax of the candelilla is used commercially in food products... Creams, powders, lotions and medicinal products are made from the juice of Old World Aloes. The jojoba's seeds yield a liquid wax used in manufacturing plastics, floor wax, automobile finishes, cosmetics and

²⁵ Central Karoo Leather brochure.

²⁶ Beaufort West Hydroponics brochure.

lubricants. It has proved to be an effective substitute for the oil of the endangered sperm whale.”²⁷

A particularly interesting South African enterprise was the Agave distillery just outside Graaff-Reinet. The “Blue Agave plant” was punted as being “the soul of all Mexican tequilas”²⁸ and the distillery was open for “visits, tours and tasting”. The Blue Agave is a spiky succulent which apparently thrives in Graaff-Reinet’s soils and climate. It grows wild and is harvested by hand. The distillery produces two tequilas - Agava Silver and Agava Gold (an oak-aged variety). There are a number of potential by-products reportedly being evaluated for commercial exploitation.

The leaves of the agave plant contain fibres that can be extracted and used for the production of technical textiles and the making of paper. According to the CSIR, the plant also contains up to 25 percent of inulin which is used in the food and pharmaceutical industries.²⁹ The project was the brainchild of Roy McLachlan, MD of Agave Distillers, and Ken Bern, project manager at the ECDC. Camdeboo municipality allocated 100 ha of commonage land for the project and there was an agreement of co-operation between the CSIR and a Brazilian industrial association.

Given the unique promise of this project, it is very saddening that Agave Distillers went into liquidation due to “technical problems”.³⁰ One hopes that it might be resuscitated but the details of the ‘technical problems’ encountered are unclear at this point. The company apparently had 25 employees and 200 shareholders.

12. Honey Bush Tea and Rooibos Tea

Cyclopia (Leguminosae) is an arid zone plant that has been used as a herbal tea for hundreds of years in South Africa (Honey Bush Tea). This is traditionally collected destructively from the wild. The National Botanical Institute, Kirstenbosch, discovered the impact of smoke on the germination of many South African species, including *Cyclopia*, and so has been able to mass-propagate *Cyclopia*. There are now 40 communities in impoverished areas where there was formerly no agricultural activity that now have industrial-scale operations for the production of Honey Bush Tea.³¹

According to Martie Taljaard, chair of the SA Honeybush Tea Association, “Besides being used for the production of tea – conventional, organic and green tea – honeybush has various uses, such as extracts for the cosmetic industry as well as a flavour extract for sweets [and]

²⁷ Boyce Thompson Arboretum, Arizona, website

²⁸ Agave Distillers Ltd brochure.

²⁹ *Karoo Advertiser*, 12 Oct 2007, “Agave processing venture to take off”.

³⁰ “Proudly South African tequila under liquidation”, *Karoo Advertiser*, 7 Mar 2008, p. 1.

³¹ www.bgci.org.

fruit juice mixtures... Germany is the major export market for conventional tea, whereas organic honeybush tea is mainly exported to the US... even though honeybush export quantities have increased six-fold in the last seven years, the demand is still not being met.”³²

There is a need for research to support the claims of honeybush’s health-promoting properties and “investigations are focusing on the antioxidant, antimutagenic, anticarcinogenic and phytoestrogenic properties”³³ of the plant.

The demand for rooibos tea on overseas markets grew by 50% in the period 2001 to 2004.³⁴ Rooibos tea is made from the branches and leaves of *Aspalathus linearis* a South African *fynbos* plant. Commercial production is therefore limited to South Africa.³⁵ Since 2004, 150 new producers have appeared on the scene, increasing the number of producers by 50 percent. The total production for 2006 was 10 500 tons but it is anticipated the figure for 2007 will be 14 000 tons. The local market will absorb 4 500 tons and the export market 6 500. The expected surplus has precipitated a 30 percent decline in the producer price to R8.75/kg. In 2003 this stood at R16.50/kg and the economic sustainability of rooibos tea production is accordingly under some pressure. Too much value-adding is done outside the country where the finished product realizes as much as R80/kg up to R150/kg.³⁶

13. Essential oils

Beaufort West Hydroponics grows rosemary, lippia, rose geranium and lavenders for their oils. Testing is still being done to determine which oils are commercially viable. Apparently there exist “good market opportunities”. Essential oils are a basic raw material used for flavouring and fragrance. They are used in the preparation of food products and beverages, pharmaceutical/medicinal preparations, as well as personal care and household products such as cosmetics, toiletries and cleaning preparations.³⁷

The process of producing essential oils uses steam distillation during which steam runs through the plant material. The hot steam breaks down the cells of the plant and carries the essential oils to a cooling chamber where separation of the plant into the water portion and the volatile oils takes place. It takes quite a lot of plant material to extract a small quantity of the aromatic oils.³⁸

The Camdeboo Trust is in the process of forming a Public-Private Partnership with the Camdeboo Municipality to form an Essential Oils cluster for the Eastern Cape at the

³² *Farmer’s Weekly*, 27 Apr 2007, “Honeybush – SA’s herbal tea is healthy and in hot demand”, pp. 48-49; See also *Landbouweekblad*, 1 Feb 2008, “Tee vir ’n gesonde nasie”, pp. 28-30 .

³³ *Farmer’s Weekly*, 30 Nov 2007, “Rooibos health benefits being researched”, p. 21.

³⁴ *Landbouweekblad*, 2 Apr 2004, “Wetenskap, tegnologie ingespan teen rooibosplae”, p. 12.

³⁵ *Landbouweekblad*, 20 Apr 2007, “Rooibostee kry meer skop”, p. 91.

³⁶ *Landbouweekblad*, 30 Mar 2007, “Bedryf groei sterk”, p. 27.

³⁷ *Karoo Advertiser*, 17 Aug 2007, “Essential oil workshop”.

³⁸ Beaufort West Hydroponics brochure

initiative of the ECDC. Clr Knott-Craig “emphasizes the importance of adding value to the products of towns in the EC where water deprivation does not allow for irrigation from permanent water resources and where plant life that exists must be used for job creation.”

A distillation plant will be built in each of the five Eastern Cape Essential Oils clusters after trials to determine which plants fare best in which clusters. Graaff-Reinet apparently has the right types of soil for the Rosemary, Geranium and Lavender plant. The Camdeboo Trust is also testing the potential for mint.³⁹

Pelargonium is being experimented on in the Citrusdal region by a local citrus farmer.⁴⁰ The plant is harvested twice a year and yields about a litre of oil per ton of plant matter. A producer would get about R900 per litre on the overseas market. This is actually rather less than can be obtained locally due to the fact that Egypt and China supply large quantities of this essential oil to the international market.

14. Aloe Ferox

The *aloe ferox* plant “indigenous to the Eastern Cape” presents “a business opportunity” for the Graaff-Reinet area.⁴¹ A business enterprise called ‘Living Aloe’ “is spearheading an initiative which will launch 15 products in the aloe cosmetic range in 2008 and create 200 employment opportunities.”

Apparently the Camdeboo Municipality has allocated [sold?] 120 ha. of land and the Kellogg Foundation has contributed R1-million to the project. “Living Aloe aims to be a catalyst of a viable commercial aloe industry in the Cacadu district.” There are negotiations to create “primary production factories” in the Blue Crane and Ikwezi municipalities. The botany department from the University of Fort Hare is conducting sample testing on 19 sites.

The SABS has now developed a standard (SANS 368) that “specifies requirements and test methods for *Aloe ferox* raw material intended to be used in consumer products including health, cosmetic, health food, medicinal, veterinary and industrial products.”⁴² It is claimed that the aloe industry generates a worldwide turnover in the region of \$110-billion. At this point SA has less than a one percent share in this market. *Aloe vera* is currently used as the international standard and invidious comparisons are drawn with *Aloe ferox* which is why the development of a *ferox* standard is so important for SA to grow its market share.

In 2003/4, a joint venture was created between African Aloe, a company based in Uniondale with more than 10 years experience in the exportation of *Aloe ferox* products, the Eastern

³⁹ *Karoo Advertiser*, 31 Aug 2007, “Essential oil proofs to start”.

⁴⁰ *Landbouweekblad*, 6 Jul 2007, “Inheemse gewasse wat die rande laat inrol”, p. 6.

⁴¹ *Karoo Advertiser*, 19 Oct 2007, “Graaff-Reinet to establish aloe processing facilities”, p. 9.

⁴² *Farmer's Weekly*, 22 Jun 2007, “*Aloe Ferox* gets SABS standard”, p. 19.

Cape Development Corporation (ECDC) and *Aloe ferox* harvesters in the Eastern Cape. This resulted in the creation of the Ikhala Agricultural Co-operative which is intended to “consolidate harvesters in the EC and to give them a consistent market.”⁴³ The co-op’s pre-processing plant produces aloe bitters, fillets and leaf powders for African Aloe.

The Ikhala product range manufactured in Uniondale will eventually ensure real growth for the initiative. The Ikhala product range includes shampoo, regenerating gel, night cream, hand and body cream, hair conditioner and toning lotion. Sustainability in the wild is a key consideration and harvesters are trained in practices that ensure the survival of the aloe plant itself. There are also moves afoot to cultivate the aloes in tunnels.

Andre du Plessis, CEO of African Aloe, cites a common misapprehension that where aloe is used in any preparation (eg. yoghurt) it must impart a bitter taste. This is no longer the case and the company has recently launched a new *Aloe and Devil’s Claw* health drink. This has proved so popular apparently that a leading cool drink distributor has bought an entire year’s prospective production in advance. Estimated production will be about 60 000 bottles a day. Du Plessis goes on to report that there is strong interest in the product from Canada, Japan and Malaysia. The *aloe ferox* plants must be at least seven years old before their leaves can be harvested but will still be productive 40 years later. About 400 tons of sap is exported annually at about R46 000 per ton. Unlike *aloe vera*, *aloe ferox*, is grown and harvested ‘in the wild’. It can therefore be marketed as an organically produced product. African Aloe has more than 300 people in its service.⁴⁴

15. Buchu

The Camdeboo Trust is devising a plan to test buchu plants in the Graaff-Reinet area. Although there are more than 130 species of buchu growing in the wild, only two are used commercially for the essential oils market: *betulina* and *crenulata*. A number of 200 buchu plants, donated by a local interested entrepreneur, will be handed to a number of farmers in the Camdeboo area for trials.⁴⁵ The ECDC and Earth Oil will be evaluating the potential of the plants which have been distributed to different individuals to plant on their farms and homesteads. Apparently, “the buchu industry is very closed and seed is scarce and very expensive. There are no guarantees about the source of genetics.”

Buchu is distilled on the day of harvesting to capture the oil and the essence. Farmers get about R50/kg for wet buchu, but the seeds costs about R27 000/kg. South Africa formally produces about 600 tons of buchu per annum but some estimates are that about 90 percent of the crop is thieved.⁴⁶

⁴³ *Farmer’s Weekly*, 13 Apr 2007, “Aloes alleviate poverty in the Eastern Cape”, p. 62-64.

⁴⁴ *Landbouweekblad*, 18 Jan 2008, “Bitter uit aalwyn gehaal”, pp. 22-24.

⁴⁵ *Karoo Advertiser*, 31 Aug 2007, “Essential oils proofs to start”, citing www.buchumoon.com.

⁴⁶ *Landbouweekblad*, 6 Jul 2007, “Inheemse gewasse wat die rande laat inrol”, p. 6.

Germany is the biggest importer and companies such as Pepsi and Cadbury Schweppes use the oil to improve their products.

16. Wine

The Namaqua brand is owned by Westcorp International, based at Vredendal. This brand is now amongst the top 20 wine brands in the UK.⁴⁷

The Landzicht estate at Jacobsdal, in the south-western Free State just 15 km from the Northern Cape border, has received numerous awards and international acclaim for its wines. The soil of the region consists mainly of various types of limestone covered with red sand brought by the wind from the Kalahari to lie in layers of up to 30 metres deep over the limestone”.⁴⁸ This soil is ideally suited to wine grapes.

The Oranjerivier Wynkelders co-op centered around Upington is said to be the biggest wine co-operative in the southern hemisphere. The area harvests between 150 000 and 180 000 tons.⁴⁹ The co-operative is engaged in considerable marketing efforts in overseas markets including China, India and Kenya. There are currently 16 depots and at least another two more are in the pipeline. Labour costs, at 45% of production costs, are unacceptably high. It costs R70 000 per ha to establish a new vineyard from scratch. At present, the gross return on production of 35 tons per hectare stands at R31 500 per hectare.

17. Olives

Wally Nigrini of Karoo Olives in Beaufort West inherited an olive farm from his parents: “My parents created one of the four original olive farms in the country when they planted 25ha of olive trees back in the 1960s. Back then growing olives in the Karoo was unheard of...”⁵⁰ Nigrini, on taking over the farm, investigated markets and ways of adding value to his product before selling it and today produces a variety of products “including pickled olives, olive oil, and olive trees.” He now has 8000 productive trees on 40 hectares of land.

Olive trees can have variable levels of output. The rainfall in the region is about 200mm pa and temperatures range between 20 to 40 deg in summer and minus 6 to 18 deg in winter. Trees are at risk of dying should they be exposed to a temperature lower than minus 10 deg.

⁴⁷ *Farmer's Weekly*, 12 Oct 2007, “Westcorp’s Namaqua transformation”, p. 38.

⁴⁸ *Farmer's Weekly*, 1 Feb 2002, “Winning wines from the Free State”, p. 40.

⁴⁹ *Landbouweekblad*, 28 Sep 2007, “Wyn van die Benede-Oranje vonkel”, p. 63.

⁵⁰ *Farmer's Weekly*, 25 Nov 2005, “Secrets of Karoo Olive Farming”, pp 76-78.

“Frost in September and October can influence crops negatively or cause blossoms to drop off; and frost from April to June can lead to olives going soft... areas with high winter temperatures can also lead to trees not going into a dormant phase, which results in them not blossoming at all... very hot winds can scorch the blossoms, while hail can destroy crops.”

Nigrini grows three cultivars: Mission, Frantoio/Leccino and Kalamata. After extensive research, an olive press was imported from Italy. The olive press recovered its own cost by the end of its first season. The farm distributes directly to supermarkets, as well as to farm stalls and delicatessens throughout the country. The intention is to increase the number of trees to 40 000.

Regarding the prospects for the olive industry, Linda Costa of the SA Olive Industry Association says that South Africa competes with other southern hemisphere countries for market space in northern hemisphere countries due to the seasonality of olive production. South Africa has an ideal climate and enough land to become a leading producer of table olives and olive oil. Australia has the advantage over South Africa as it has managed to get its volumes right – it has at least 10 times more trees in production. South America is not a major competitor as it produces primarily green olives. It would be beneficial for SA to concentrate on oil and black olive production for exports.⁵¹

Interestingly, SA supplies only 17% of the *domestic* demand for olive oil.

18. Aquaculture

According to a recent news report in the *Eastern Province Herald*, an innovative project has been launched to farm fish in the Karoo, using existing reservoirs and dams. The masterminds behind the project say that the project will also produce cheap, fresh nutrition for poor local communities. Funded by the European Union and developed against the global backdrop of plummeting wild marine fish stocks, the Camdeboo Satellite Aquaculture Project could become a major alternative fish resource for the country if rolled out as envisaged.⁵²

The project focuses on producing bream (*Tilapia mossambicus*). Jokingly dubbed “Karoo perlemoen”, it is in fact the “Nguni cow” of the aquaculture industry: indigenous, robust, disease-free, vegetarian and excellent-tasting. Extolling these virtues at a launch event at a Graaff-Reinet smallholding, the co-founder of the project, Stellenbosch-based aquaculturist Glen Thomas, said the Karoo’s plentiful sun was what had sparked the idea for the project.

“You need warmth to farm this fish – and we have a lot of sun here, of course, even in winter.” And ironically, it is the dryness of the Karoo that produced the opportunity for the

⁵¹ *Farmer’s Weekly*, 2 Feb 2007, “SA’s olive industry – ‘there’s room for growth’”, p 28.

⁵² http://www.theherald.co.za/herald/news/n10_12112007.htm

project, he noted. “Because of the dryness, there are a lot of water storage points on farms, from reservoirs to irrigation dams. These water bodies present a tremendous opportunity to introduce a new employment-generating set of economic activities to the region.”

Thomas’s partner Stephen de la Harpe, said the satellite project was based on an existing pilot project with 20 000 tilapia fry which they had been running on his smallholding: The premise of the new project is that the brood stock will be kept here but the fry will now be transferred to a large number of participating satellite farms. They will be grown to full size, about 150g, in hundreds of different water bodies on these farms, and will then be sold back to the project, and will then be processed and marketed. It will be economically, socially and environmentally sustainable.

The project has a number of additional benefits. The effluent from the fish adds nutrients to the water which benefits crops, like the lucerne and olive trees on Central Farm, when it is pumped out for irrigation. The idea is that the nutrient-laden water could be used to promote a vegetable or flower production operation alongside each fish reservoir. Tourism could also be boosted through fee-fishing and tours of fish farms or the processing plant.⁵³

There is no shortage of skeptics however and these warn that aquaculture looks a lot easier than it is. Aquaculture was tried at Orania but eventually abandoned and prospective entrepreneurs would probably do well to find out the reasons for this. According to the DEAT it is planning to invest some R400-million in “small-scale marine aquaculture facilities”.

Aquaculture consultant and trainer, Leslie Ter Morshuizen warns that subsistence aquaculture has proved to be of dubious sustainability: “Subsistence aquaculture in Africa has a very poor track record because most people do not have a culture of carrying out this activity... although people can be taught to do it, experience has shown that in most cases the beneficiaries eventually disregard the process or consume the fish too early”.⁵⁴ Perhaps the answer to Ter Morshuizen’s doubts is to teach people to do it *properly* i.e. sustainably. It must be stressed that it is not the viability of aquaculture *per se* that is at issue – it is its being introduced as a means of subsistence.

19. Cut flowers

Flowers have been produced on a Karoo farm about 60km from Oudtshoorn by Nelmarie Swiegers since 1989. Starting out with proteas and fynbos, which grew wild on the farm and

⁵³ See also *Landbouweekblad*, 3 Aug 2007, “Visboerdery”, pp 30-32; *Farmer’s Weekly*, 11 Jan 2008, “How to farm fish in the arid Karoo”, pp. 38-39; *Farmer’s Weekly*, 7 Dec 2007, “A fish feedlot for any weather”, pp. 58-59; *Landbouweekblad*, 17 Aug 2007, “Put so meer uit plaasdam”, pp. 30-31.

⁵⁴ *Farmer’s Weekly*, 23 Nov 2007, “R400m aquaculture plan’s subsistence nature questioned”, p. 16.

which she supplied to nearby businesses, she branched out into rose-growing, initially focusing on dried roses.

In time she took to producing mixed-rose arrangements and bouquets, for example rose and herb bunches which proved very popular. During slow seasons, 100 bunches are delivered to Oudtshoorn at a time but this increases to 250 during certain times of the year, such as Mothers' Day. Swiegers' business reached a point where the local market had reached its limit but where to expand into other markets she would have had to take on more labour and her preference was not to try and go beyond the parameters dictated by local demand.⁵⁵

20. Karakul

According to a spokesperson for the Karakul Research Station at Upington, "Karakul numbers have plummeted so much that commercial pelt production has almost disappeared."⁵⁶ This comes at a time when pelts fetch more than R400 apiece on auctions in Copenhagen.

From an annual production figure of 5-million pelts in the early 1970s (including Namibia), this number has now declined to 40 000 with a mere 6 000 coming from South Africa. Yet the drier parts of the Northern Cape are said to remain the best areas for Karakul production because when veld becomes too good, the lamb's skins become too thick and the hair grows too long.

Due to the collapse of the market in the 1980s, breeding ewes have become extremely scarce. South African pelts are still sold under the Swakara trademark – said to be far superior to the product emanating from Afghanistan. The Research Station still has a wealth of expertise which "has largely died out elsewhere" and can still supply the industry with breeding material.

In 2006, R807 was paid for a pelt at the Copenhagen auction and in 2007 this was followed by a record-breaking R1223.⁵⁷ The *average* price for 2007 (R429) was however lower than 2006's average of R496. Sixty thousand pelts in total were on offer and Swakara reports that the prices it has obtained rose by 60% over a two-year period partially due to high quality fetching higher prices.

21. Pecan nuts

⁵⁵ *Farmer's Weekly*, 1 Feb 2002, "Growing roses in the Karoo", p. 59.

⁵⁶ *Farmer's Weekly*, 14 Jan 2005, "Farmers missing Karakul boom", p. 36.

⁵⁷ *Landbouweekblad*, 27 Apr 2007, "Swakara behaal weer rekordprys", p. 71.

About 160 years ago, the settlement of Ramah, which straddles the Free State and Northern Cape boundaries on the north bank of the Orange River near Hopetown, was an outpost of the mission station at Philippolis. Today, Chris Roux, the owner and a direct descendant of Peter Wright, first missionary to the Griqua, can lay claim to being “the only EU certified commercial producer of organic pecans in South Africa.”⁵⁸

Accreditation is not easily obtained: According to Ecocert, when farmers initially apply for organic certification, they are classed as being ‘in conversion’ for a minimum of three years. Even if the farm already conforms to organic regulations, the organisation wants to ensure that all previous agricultural practices are removed. An EU certification (there are a number to choose from) is essential if one wants to supply the European market. Maintaining one’s certification is also no mere formality and the annual inspection costs a non-refundable 1000 Euros. Inspections are carried out once a year on a pre-arranged date, but there are also *ad hoc* inspections. A leaf and soil analysis is taken, the farmer’s accounting system audited to verify his activities, and orchard plans and schedules are studied. Every single input and output has to be documented and traceable.

Roux has been forced to resort to mechanisation to shell the nuts on account of the time pressures involved in getting the nuts to a port so that they arrive in Europe in time for the Christmas season. Whereas the shelling used to be done by hand, and the product flown to its destination, recent changes to regulations have prohibited delivery by aeroplane. The reasoning behind this is that a non-renewable resource such as jet fuel is being used to fly a luxury product from the south to the north for a niche-market of wealthy customers. (This is an interesting example of labour-saving methods and technology being thrust on to developing countries).

Roux’s pecan nut production is also certified by Bio Suisse which provides the BUD label, which stands for natural diversity on the organic farm, abstention from the use of chemical and synthetic pesticides or fertilizers, abstention from the use of genetic engineering, abstention from the use of unnecessary additives such as flavourings and colourings, and the gentle processing of foodstuffs.⁵⁹ Certification is clearly an ideologically charged affair in which certain values are imposed on the producer. Customers can visit his farm on demand and Roux does all his own marketing visiting his customers in Europe once a year to retain personal contact and “to discuss future business.” Although the market for organic produce in SA is small it is booming worldwide.

22. Horses

⁵⁸ *Farmer’s Weekly*, 4 Jul 2003, “EU certified responsible farming”, pp. 44-45.

⁵⁹ See also *Farmer’s Weekly*, 8 Jun 2007, “Animal welfare tops European shopping agenda”, p. 21.

The Karoo region has a long tradition of horse breeding and the Colesberg-De Aar-Middelburg area is regarded as especially favourable. Gary Player's stud farm is located in the Colesberg district.

According to horse breeder Piet van der Merwe of the Middelburg district in the Eastern Cape, the going price for Arabian steeds has increased twenty-fold, from R3000 to R60 000, over the past ten years.⁶⁰

In order to increase the gene pool, Van der Merwe and five other horse breeders decided to work together. Van der Merwe sold his mares to his partners and the best stallions are retained for the group's breeding purposes. Only ten breeding stallions are released to the market each year while a further dozen are castrated and sold as racehorses. The animals at the Lormar stud in Middelburg are kept until the age of five years and are broken in on the farm. Those that have proved their mettle in endurance races (the most popular are those held at Fauresmith, Walvis Bay and Hofmeyr) might be exported. A Dubai sheik recently paid R350 000 for a mare and it is said that Middle Eastern buyers will not scruple to pay well for a well bred horse. Jack Maritz who breeds Arabian horses at the Sidi stud near Upington reports sales to overseas buyers for between R400 000 and R1.6-million.⁶¹

Studcor Saddle Horse stud is situated on a farm in the Steynsburg district.⁶² The farm maintains 15 brood mares and has become well known in the USA for the quality of its horses.

The strong horse culture in the Karoo is illustrated by the popularity of endurance riding. Every year Fauresmith in the southern Free State hosts what is billed as "the largest endurance ride in the world."⁶³ The erstwhile president of the Endurance Ride Association of South Africa claims that endurance riding "is one of the fastest growing sports in the world" and cites a growth of 20 percent in the most recent season. The 2007 event drew a record entry of 376 contestants. A possible challenger to Fauresmith's pre-eminence was the "Africa Championship" staged in the Namib Desert near Walvisbaai and in which Australian and Brazilian riders also participated.⁶⁴

23. Cactus Pear

Cactus pear trials are being conducted by the Free State University's Department of Animal, Wildlife and Grassland Sciences. These are continually unveiling new evidence of how badly underrated cactus is as a fodder crop in dry countries.⁶⁵

⁶⁰ *Landbouweekblad*, 5 Jan 2007, "SA Arabierperd maak naam in Bahrein", pp. 4-6.

⁶¹ *Landbouweekblad*, 22 Jun 2007, "N.Kaapse perde vir Europese skoue", p. 16.

⁶² *Farmer's Weekly*, 25 Mar 2005, "A superior Saddle Horse stud", pp. 72-74.

⁶³ *Farmer's Weekly*, 10 Aug 2007, "200km, three days", p. 46-49.

⁶⁴ *Landbouweekblad*, 4 Jan 2008, "Namib toets perd en ruiter", pp. 24-25.

⁶⁵ *Farmer's Weekly*, 18 Nov 2005, "Cactus pear: great fodder", p. 26.

According to Prof Hennie Snyman, the combination of a very high rainfall utilisation efficiency with a high drought-tolerance in cactus pear, is shared by only a small number of plants of economic value, such as agave and saltbushes. “Under intensive management, this cactus can produce up to 10 tons per ha of dry matter above ground per year in arid zones [and] up to 20 tons in semi-arid areas... Even in poorer soils and without cultivation or fertilisers, the yield is still three to five times higher than standard grassveld... A rain shower of a few millimetres, which is normally of almost no value to common fodder plants, can be efficiently used by the cactus pear because of its relatively shallow and horizontally spreading root system and the ability to still withdraw water from the soil at a stage when other crops become unable to do so.”

The research was conducted near Bloemfontein in the semi-arid, summer rainfall region.

Many countries have resorted to programmes of cactus pear production to combat desertification, including Ethiopia, and it is advocated in some quarters that South Africa should follow suit.⁶⁶

According to Johan Potgieter of the Department of Agriculture in Limpopo, “Global climatic change and a decrease in global precipitation is worrying [but] this situation is advantageous to the cactus pear industry as it means more land will become suitable for its cultivation. Many areas in South Africa with highly degraded soil can be used to grow this crop to aid in poverty alleviation and rural upliftment.”

Ethiopians see this plant as an entry point to restore the environment. No other plant can survive in those harsh conditions, stop soil erosion and stimulate organic recycling. According to UFS’s Prof Wijnand Swart, the cactus pear provides a highly digestible source of energy, water, minerals and protein. Plantations grown for fruit, forage and vegetable production have already been established worldwide. Researchers in Chile are finding that the cactus pear’s ability to be processed has major value-adding potential and there are also many studies in this regard being undertaken in Mexico.

In 2006, Free State University hosted the International Cactus Pear Conference.

24. Organic vegetables

The Organics SA organisation claims that it is inundated by enquiries from restaurants, supermarkets, wholesalers and food processing businesses wanting to know where they can source supplies of organically produced foodstuffs and vegetables. A challenge for smaller growers however is that these outlets tend to want guaranteed supply on an ongoing basis. Apparently much of what is currently sold as organic in SA’s major retail chainstores is imported from Namibia, Kenya and Zambia. SA farmers are said to be resistant to the idea of

⁶⁶ *Farmer’s Weekly*, 21 Apr 2006, “Potential in cactus pear”, pp. 15 & 22-23.

farming without chemicals⁶⁷ and SA trails in sixth place continent-wide insofar as the production of organic crops is concerned. Distributors such as Woolworths say that they would naturally give precedence to SA growers but such is the shortfall in supply that they have no option but to import. Apparently the situation is aggravated by general indifference from state structures and the near total lack of research in the country.⁶⁸

Although there are producers of ‘organic’ meat products in the Karoo it would appear that there is a gap waiting to be filled in respect of organic fresh produce if the sustainability of supply issue could be resolved. Anecdotal evidence is that certain chains are much more amenable to being supplied by local growers than are others. The growing threat posed to agricultural exports by the ‘food miles’ issue⁶⁹ in Europe and the UK might also cause local farmers (and the State) to want to re-evaluate opportunities and niche markets closer to home.⁷⁰ In the meantime, prices for organic produce continue to rise.⁷¹

25. Klipdagga and Wildedagga

Klipdagga (*Leonotis ocyimifolia*) or “lion’s ear” and Wildedagga are mainly found in the three Cape provinces. The plants are suited to heat and require little water. They are reportedly the subject of intensive research to determine their medicinal properties. There seems to be no shortage of testimonials from those who swear by it as a remedy for everything from snakebite to stomach cancer. As far as is known, it is not commercially available as yet – presumably this will depend on the outcome of the tests.⁷²

26. Abattoirs

The recent closing of the Eastern Province Livestock Agency’s (EPLA) Port Elizabeth abattoir, due to a host of problems and partly attributable to the de-regulation of the meat industry, has opened a window of opportunity for “smaller and more nimble abattoirs situated closer to producers”.⁷³ It also appears to have become a viable option for farmers to do their slaughtering themselves. One such is Hantie Marx of the farm Dowefontein near Aberdeen.⁷⁴

⁶⁷ Often, it must be said, not without good reason, cf. *Farmer’s Weekly*, 8 Feb 2008, “Money from ‘feel good’ products”, p. 30 where failures in the Karoo with fish farming and organic mutton production are cited.

⁶⁸ *Landbouweekblad*, 21 Dec 2007, “Supermarkte kies ‘groen’ roete”, pp. 18-20 and “Talle dorings steeds op organiese boere se pad”, p. 74; *Landbouweekblad*, 14 Dec 2007, “Verandering is nie altyd sleg”, p. 81.

⁶⁹ *Landbouweekblad*, 4 Jan 2008, “Local nie noodwendig lekker”, p. 21.

⁷⁰ *Landbouweekblad*, 15 Feb 2008, “Voedselmyle kan uitvoer pootjie”, pp. 12-14.

⁷¹ *Landbouweekblad*, 25 Jan 2008, “Boer saam met winkels vorentoe”, pp. 16-17.

⁷² *Landbouweekblad*, 15 Feb 2008, “Bly gesond met klipdagga in jou tuin”, pp. 50-51.

⁷³ *Farmer’s Weekly*, 18 Jan 2008, “Smaller abattoirs bring home the bacon”, pp. 36-38.

⁷⁴ *Landbouweekblad*, 15 Feb 2008, “Plattelandse slagplase het plek in vleishandel”, pp. 28-30.

27. Emus

Emu farming is still in its infancy in South Africa. It is almost impossible to break into due to the extreme shortage of eggs and birds (importing has been prohibited due to the risk of bird flu). Nevertheless, it is felt that emu farming will come into its own.

“Standing two metres tall and capable of running at 50km/h, emus evolved a large fat gland, much like a camel’s, to survive the water and food-scarce environment of the Outback. Storing up to 13kg of fat, this gland lies across the emu’s back ... Australian Aborigines used emus for their meat and skin, but most importantly, for the oil that can be rendered down from the fat and used for cosmetic and health purposes”.⁷⁵ At present, day-old chicks sell for over R1000 but once the emu population has been built up, given its Outback origins, perhaps the bird would do well in the Karoo?

28. Alpacas

A particularly interesting newcomer to the Karoo is the alpaca.⁷⁶ In 2000, 60 selected alpacas were imported into SA and registered as a livestock species. “The alpaca is a... straight-backed South American relative of the camel. It’s native to the high plains of the Andes, where it has been farmed for thousands of years for its luxurious wool... alpaca fibre is soft and lustrous, and lacks the prickly feeling associated with sheep wool. It is similar to cashmere, but is far stronger and insulates three times better than lamb’s wool”.

Alpacas’ life span is about 25 years and they do not come cheaply. Pregnant females fetched R32 000 in 2004 and up to R44 000 in 2007. In 2004, alpaca wool was selling for about 12 times the price of sheep wool. Late in 2007, the SA Alpaca’s Breeders Society was formally registered.

An intriguing added benefit to be derived from alpacas is their ability to function as excellent sheep herd guards and farmers in the Graaff-Reinet district have reported significant reductions in lambs lost to predators since deploying alpacas. Alpacas seem to naturally bond with sheep and have many advantages over dogs used as guards. Alpacas are used extensively in Australia as sheep guards.

29. Goats’ Milk

⁷⁵ *Farmer’s Weekly*, 20 Oct 2006, “Untapped emu oil well – a lucrative alternative?”, pp. 43-44; *Farmer’s Weekly*, 18 Jan 2008, “There’s gold in emu fat”, pp. 30-31; *Farmer’s Weekly*, 19 Jan 2007, “Effective management: the key to emu excellence”, pp. 30-32.

⁷⁶ *Farmer’s Weekly*, 16 April 2004, “Investing in alpacas”, pp. 40-41; *Farmer’s Weekly*, 23 Nov 2007, “Alpacas now official”, p. 21; *Landbouweekblad*, 4 Aug 2006, “Kreatiewe gees laat boerdery blom”, pp. 64-65; *Landbouweekblad*, 13 Apr 2007, “Alpakkasverwilder probleemdiere”, pp. 20-22; *Farmer’s Weekly*, 2 Jun 2006, “Why Aussies prefer alpacas as sheep guards”, pp. 38-39.

Dairy goat farming has seen a surge in recent years.⁷⁷ The breed director of Jersey SA is on record as quipping that: “In the old days you bought a dairy goat because you couldn’t afford a Jersey cow. Now you buy a Jersey cow because the dairy goat is too expensive!”

This turnaround has been driven by increased demand for specialised cheeses and the interest in goats’ milk for its purported health benefits. Advocates claim that, “not only is it a good source of protein, but research suggests it has immune-boosting properties”. Koos van der Westhuizen is the chairperson of the SA Milch Goat Breeders Society and farms near Middelpolis in the Northern Cape. He says that hundreds of dairy goats have been exported to sub-Saharan African countries on account of goats’ milk reputation as an immunity booster and that this property is being researched in Botswana with a view to seeing if goats’ milk would be beneficial to those who are HIV positive. Van der Westhuizen also believes that “there is tremendous scope for emerging [‘future’?] farmers in the dairy goat industry” if only government would augment Botswana’s research efforts with research of its own.

According to Alan Baron, an Australian genetics authority, goats’ milk powder industry is one of the biggest agricultural value-adding businesses in the world, and “South Africa is perfectly positioned to tap into this market”. This product’s biggest selling point is that it is suitable for people with lactose intolerance and South African producers’ biggest clients at present are health outlets. Apparently the “health and wellness industry is growing at a phenomenal rate, and goats’ milk fits right in”. A big threat to the industry is the blending of cow’s milk with goats’ milk. This is done because goats’ milk is five times as expensive but the effect is to cancel out all the benefits of goats’ milk.

D. ARTS AND CRAFTS

1. Decoupage ostrich eggs

Carlos de Souza of Aberdeen has perfected a way of ‘decoupage’ ostrich eggs that has resulted in his products being exported all over the world, especially to the Middle East. His techniques were entirely self-developed and he employs a staff of seven fulltime workers, all of whom are skilled in various facets of the complex production process. Carlos also employs a welder to make display stands for the finished eggs and has a number of ‘up-stream’ suppliers. He makes a point of sourcing his supplies locally wherever feasible.

⁷⁷ *Farmer’s Weekly*, 28 Dec 2008, “Tapping into goats’ milk”, pp. 46-48; *Farmer’s Weekly*, 3 Aug 2007, “Goat’s Milk: Tapping into global health demands”, pp. 42-44; See also *Farmer’s Weekly*, 8 Feb 2008, “Money from ‘feel good’ products”, p. 30.

Carlos has supplied eggs to celebrities such as the late Pavarotti, the Vatican, and to top hotels and department stores. His work is on permanent display at the Dubai airport. Carlos exports to Belgium, Canada, Dubai, Czechoslovakia, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Switzerland, the UK, and the USA.

Carlos regards his Aberdeen studio as a centre for artworks (as opposed to ‘crafts’) and his eggs are priced at +/- US\$ 120 each. He is currently embarking on a more active marketing phase.

2. Ebenhart’s pipes

In 1930, the Department of Forestry received a request from abroad to do a survey on South African woods as a suitable substitute for Briar. They tested several woods, but came to the conclusion that no wood except for Waboom Protea would suffice. In 1992, Ebenhart Botha (based in Calitzdorp) conducted his own survey when he found that not nearly all the available woods had been tested in 1930. There were two that especially interested him and he started doing some tests on them.⁷⁸

The first is *Dalbergia Menoloxolyn*, an almost pitch-black wood with a bright yellow outer layer, and has the highest density of all woods. This makes it extremely hard and durable, but also quite tricky to work with. When a Briar pipe is smoked constantly, it becomes cloggy very quickly, and a foul taste is experienced shortly after lighting. This is not the case with *Dalbergia* for it is too hard and dense for that. According to Ebenhart, *Dalbergia* will outlast Briar with at least three times the lifespan. It is however a rare and expensive wood.

The second type of wood, *Combretum Imberbi*, is nearly as hard as *Dalbergia*, more readily available, and much cheaper to buy. The wood has a dark brown color, which can sometimes appear almost gray. It takes longer to smoke-in compared to *Dalbergia* (which smokes even sweeter than Briar right from the outset), but once it is burned in it provides excellent smoking.

Ebenhart’s pipes are mainly exported to the USA. Some may cost thousands of dollars.

A specially grown calabash gourd is used to make this pipe. It is shaped for days on end as it grows, to create the right curve. The gourds are sanded down very delicately to yield an attractive grain, and then a bowl is turned to smoke out of. This is apparently the pipe Thabo Mbeki sometimes uses.

⁷⁸

<http://www.ebenharts.co.za/african.htm>

3. Indigenous memory sticks (flash drives)

Fully functional, individual USB memory sticks are hand-crafted from alien trees in Kharkams (about 20km from Kamieskroon on the N7 in Namaqualand north of Garies). The crafts group is known as Kharkams Technology Crafters.

This is a craft business with a difference - high technology and hand-crafting are brought together by skilled wood-crafters. Five previously unemployed crafters have recently undergone a skills training programme and have been supplied with specialised equipment which has enabled them to produce the product.

The memory sticks are made from the branches of alien vegetation delivered weekly to the crafters by the Working for Water programme administered by the Department of Water Affairs and Forestry. The naturally occurring patterns on the bark mean that each stick is unique in its aesthetic appeal. A space for the USB electronics is carefully hollowed out of the stick and it is then fixed into place using a hi-tech bonding material. Each memory stick is hand-crafted from start to finish by a single crafter. Once the memory stick has passed a number of quality checks, the crafter's name and photograph is stored electronically on the USB.

This project is about more than just the making of memory sticks. It is fundamentally about job creation and contributes to the alleviation of poverty through harnessing existing craft skills and applying market-related design for the development of relevant craft products. The project was supported by Conservation International and the DBSA. These two organisations' programmes ensure that the protection of plant species in this bio-diversity hotspot leads to the socio-economic development of the local communities.”⁷⁹

The group is actively exploring new possibilities to make creative use of waste products⁸⁰. At present their biggest (but by no means only) customer is the State who use their memory sticks as ‘corporate gifts’.⁸¹

4. Glass art, wire and beadwork

Glaasstudio was established in the year 2000, in Jagersfontein in the southern Free State, as a small stained glass studio with a staff complement of two.⁸² To enable the studio to cope with the growing demand for their product, a training and production centre was created. Today 20 locally trained artists produce a wide range of items ranging from small animals,

⁷⁹ <http://www.iol.co.za>

⁸⁰ See <http://www.technologycrafters.co.za> for more detail.

⁸¹ Pers. Comm. Leonard Shapiro, project manager, 31 Aug 2007.

⁸² *Glaasstudio* brochure. E-mail Gillian@shisas.com

bowls and lamps, to specially commissioned artistic pieces using wire, beads and stained glass. This is typically African art. Gill and Naas Vermaak, drawing inspiration from their natural surroundings, now fulfil orders from around the world and are currently busy with a substantial order for the 2010 World Cup.

5. Community crafts in the Karoo

As with ‘eco-tourism’, the potential for arts & crafts in the arid regions is limitless and is bounded only by the extent of its entrepreneurs’ vision. The following represents a tiny sample.

In the vicinity of New-Bethesda, there are two craft groups, one run by Charmaine Haines and the other (focusing on wool and beaded balls) run by Mrs Malgas. In the same area, Lisa Watermeyer and Judi Sheard produce their Karoo Moon range of confections.⁸³

Graaff-Reinet hosts the Irafu Craft group. Irafu focuses on weaving and knitting and is run by Sabina Arries and produces a range of knitwear. Products are marketed both locally and internationally. The group of 17 is introducing a range of hand-painted fabrics to be used as tablecloths or for display.

Mrs Malgas of New Bethesda has a group of seven members working fulltime producing ranges of felt and beaded products. This group started as a CSIR initiative and the CSIR continues to support it with marketing and technical training in product development.

Charmains and Martin Haines produce ceramics and sculpture “within the realm of figurative clay.” Their work is sold at the Craft Art Gallery in New Bethesda.

The Umsobomvu group at Middelburg engages in spinning and weaving but lacks exposure to any kind of sizeable market. At nearby Cradock, Mr Tyatyeka heads up a CSIR-developed project that produces beaded dolls and bags. Thomas Ligman of Cradock produces wire sculpture and home-ware. Mr Ligman toured Germany with an exhibition sponsored by the government.⁸⁴

Alida Vermeulen from Murraysburg in the Western Cape restores porcelain and runs “a successful nationwide business” with clients as far afield as Thabazimbi, Amanzimtoti, Tosca, Cape Town and Port Elizabeth. She has been in business since 1998 after qualifying as a restorer. She also works on a *pro bono* basis when restoring pieces for the museums at Beaufort-West and Graaff-Reinet.⁸⁵

⁸³ *Landbouweekblad*, 27 Jul 2007, “Karoo Moon wil plaasgevoel behou”, pp. 50-51.

⁸⁴ www.easterncapecraft.co.za

⁸⁵ *Farmer's Weekly*, 30 Sep 2005, “A fine eye for detail”, p. 41.

Karoo Kidz supplies children's clothing to destinations as far afield as Russia and Canada and is a one-woman business that operates from a farm in the Aberdeen district. The main market is national and Karoo Kidz now has 15 agents throughout the country and receives orders of up to R100 000.⁸⁶

E. TOURISM

1. Eco-tourism

South Africa's arid areas offer a terrain *par excellence* for eco-tourism and the following represents but a miniscule sample of what is on offer:

Merweville offers "superb eco-tourism experiences" and 4x4 routes,⁸⁷ and Prince Albert is "botanically significant" and also offers an "historical walk" as well as tours to *Die Hel* and the Swartberg.⁸⁸

A recent publication (pictured below) entitled *Journey through the Living Deserts of South Africa* by CM Dean further underscores the potential for eco-tourism in South Africa's 'deserts'

In recent years, there has been a marked shift from conventional agriculture into game farming. This sector has decided synergies and links with eco-tourism while not being necessarily synonymous with it and is dealt with in a separate section of this report.

The Baviaanskloof conservancy (see map below) appears ripe for take-off after troubled beginnings⁸⁹ (with interesting prospects for neighbouring Willowmore) and is described as being in a transition phase from an agricultural to a tourism-based economy (although there are dissenting voices).

Another iconic draw-card will be the tiger reserves bordering on the Orange River between Colesberg, Philippolis and Philipstown once these come on stream for tourists, as is currently planned. As malaria spreads southwards there is increasing interest on the part of tourists in areas that are quite emphatically malaria-free.

A February 2008 report ("Buyers go Wild over Karoo Land") in the *Weekend Post*⁹⁰ was almost euphoric about land prices in the Karoo being driven up by tourism-led demand: "Agents say the average price for Karoo land is fast spiraling past R2 000 per hectare, at times fetching as much as R4 400/ha – a price buyers described as ludicrous just 12 months

⁸⁶ *Landbouweekblad*, 20 Jul 2007, "Van tuisteskepper tot geordende sakevrou", pp. 48-49.

⁸⁷ Merweville brochure – text by Rose Willis.

⁸⁸ Prince Albert brochure <http://www.princealbert.org.za>

⁸⁹ *Landbouweekblad*, 4 Jan 2008, "Boere oes groot uit toerisme", pp. 4-6.

⁹⁰ Reproduced at <http://www.eprop.co.za/news/article.aspx?idArticle=9797>

ago". In 2006, average prices for farms in the Graaff-Reinet area were less than R1 700/ha, but a local estate agent now reports that "it's shot over R2 000/ha and some smaller farms under 1 200ha in size have gone for up to R3 500/ha... the hike has surprised us all." The report goes on to say that late in 2007 a 9 500ha farm, an hour's drive from Graaff-Reinet, had been sold for R21-million "specifically for game purposes".

Amongst the buyers in the area were a Gauteng tour company looking to establish "an ecotourism mecca", parties involved with extensions to the Camdeboo National Park, and Dutch and Italian business concerns who intend to create a 15 000ha game farm in the New Bethesda area. An agent from Steytlerville said that many purchases of larger properties were made "to cash in on the game farm craze".

It is, however, no exaggeration to say that South Africa's arid areas literally have 'Blue Sky' potential for tourism and that this potential will be considerably enhanced by a focus on holistic marketing and delivery synergies, to overcome the current fragmented approaches.

2. Small-town tourism

Curiously, it was in fact a Karoo farmboy (Prof. AJ Norval from the Colesberg district), schooled in the Free State, who 'invented' tourism theory in the mid-1930s⁹¹ with the publication of his *The Tourist Industry – a national and international survey* in London.

The Karoo has many historical gems, which form the back-bone of a viable tourism industry. There is scarcely a town that has not begun to reappraise itself with an eye to attracting tourists but, other than with some of the more established destinations such as Springbok and Graaff-Reinet, the industry is still in its infancy. The number of guest farms is on the rise and the potential of these is nowhere more evident than in the superior accommodation to be had in the Camdeboo conservancy and in Graaff-Reinet's environs. The Owl House at Nieu Bethesda attracts tourists from all over the world.

Many towns have investigated the merits of annual festivals and, for example, Prince Albert has an Olive Festival, an Agricultural Show, an October festival, and a Christmas Market. Renu-Karoo, based in Prince Albert and managed by Sue Milton and Richard Dean, also offers guided botanical and nature walks, and donkey-cart rides to the town's botanical reserve.⁹²

An important facet of any small town's appeal is the availability of popular local histories usually written a local notable (and often, in bygone days, published with the help of the local municipality). Although these are rarely profitable ventures, they tend to sell slowly but steadily over time (if sales outlets are maintained) and help to brand a town as still exhibiting

⁹¹ Ingle, MK, 2006. "The Free State Roots of International Tourism Research: the Case of Prof. AJ Norval" in *South African Geographical Journal*, 88(1):79-87.

⁹² <http://www.renu-karoo.co.za/Ecotourism.htm>

some measure of self-respect. Recent publications in this genre have been *Karoo Characters* (2003) by Bruce Clemence and Karin MacGregor; *Aberdeen of the Cape* (2007) by Wendy van Schalkwyk; *Prince Albert (Kweekvallei)* (2005) by the Prince Albert Writers' Guild; *Graaff-Reinet* by Tony Westby-Nunn; and a very recently published history of farms in the Hanover district (details to be added once available). Many NGK churches still produce commemorative publications although distribution of these tends to be very limited and their being in Afrikaans also circumscribes their wider impact.

De Aar plays host to the Central Karoo Show⁹³ and has done so for the last 19 years. This show is primarily focused on champion horses but as “[a]n annual agricultural show cannot survive on showing horses alone... Merino and Dorper sheep shows and judging, as well as a CMW Fat Stock Auction sale” has been incorporated.

Horse shows are also held at Victoria West,⁹⁴ Steytlerville,⁹⁵ Uniondale,⁹⁶ Loeriesfontein and Cradock.⁹⁷

Steytlerville is also gaining recognition as the site of Mark Hinds and Jacque Rabie's Karoo Theatrical Hotel which houses Grimaldi's Theatre Hall. The theatre now serves as a venue for regular cabaret performances. Mark was a concert pianist based in Switzerland for many years and his collection of a dozen fine pianos can be seen dotted about the hotel. Theatrical 'theme weekends' are occasionally staged and a 3-day 'Rainbow Festival' is being planned for September 2008 which, it is hoped, will draw “at least 4000 visitors”.⁹⁸

3. Railway tourism

Cross-boundary steam train routes offer huge scope for enterprising development as do developments along the Orange River, the potential of which remains one of South Africa's best kept secrets. Another of these 'best kept secrets' is said to be the scenic beauty of the railway route between Graaff-Reinet and Middelburg. It is a great pity that commentators who do write about train trips through the Karoo, should need to feel moved to remark on the general squalor and litter visible from the train, the pollution and filth that characterizes the bigger centres' natural environment, and the decay that typifies so much of Spoornet's rural infrastructure. It is also unfortunate that a photograph from De Aar should be used to illustrate this state of dereliction. “Where”, travelers ask, “are the welcoming neat-as-a-pin country stations” such as one finds in Europe, and which used to be a feature of the South

⁹³ *Horse Power*, February 2006, “Saddle Horse showdown in the Central Karoo”, p. 16

⁹⁴ *Landbouweekblad*, 7 Apr 2006, “Victoria-wes”, p. 58.

⁹⁵ *Landbouweekblad*, 25 Jan 2008, “Steytlerville-skou”, p. 40.

⁹⁶ *Landbouweekblad*, 15 Feb 2008, “Kampioen-perde”, p. 42.

⁹⁷ *Landbouweekblad*, 29 Feb 2008, “Kampioen-perde”, p. 46-48.

⁹⁸ *Farmer's Weekly*, 28 Dec 2007, “Desert theatre – enjoy French cabaret in the Karoo”. Also see <http://www.karoospace.co.za> feature.

African landscape?⁹⁹ Why have these assets been allowed to deteriorate to the degree they have? Much work would need to be done to restore this dimension of the Karoo's charm.

4. Fossils

Nieu-Bethesda hosts the Kitching Fossil Exploration Centre and offers a “fossil safari”.¹⁰⁰ There must be possibilities for ‘dinosaur theme parks’ and specialized tourism products. The Aliwal-North museum has been rejuvenated and houses a “detailed paleontology and fossil exhibition” along with a “vast collection of Anglo-Boer War memorabilia and artefacts” under the expert stewardship of Abrie Oosthuizen.¹⁰¹

5. Niche tourism: A booktown

The tiny village of Richmond in the Northern Cape is about to become the [first] Booktown of South Africa.¹⁰² A booktown is a small rural area, usually a small town or village with a concentration of booksellers, mainly second-hand and antiquarian bookshops. The bookshops are often twinned with coffee shops, internet cafes or with artisan enterprises such as paper production, calligraphy, book design, book illustration and the dwindling art of bookbinding. Many of these bookshops also sell arts and crafts in their shops.

The goal of a booktown is to resurrect the flagging economies of small towns, to revitalize a region by developing a local book-based economy with a tourist dimension. Most booktowns develop around villages of historic significance or of scenic beauty, such as Richmond in the Karoo. As a result of booktowns, many of the older buildings, saddened by decades without human companionship, come to life again as thriving bookshops. Thus, booktowns also contribute to the conservation of the cultural and architectural heritage of a village.

The spin-off effects of a booktown is that it attracts discerning visitors to these small towns with high spending potential. These ‘bibliophiles’ prefer to stay in guesthouses and bed and breakfasts. They patronise the local cafes, restaurants and sometimes become residents of these towns after a visit to the local estate agent.

⁹⁹ *Landbouweekblad*, 7 Dec 2007, “Op die spoor na vergange glorie”, pp. 48-49.

¹⁰⁰ Karoo Fossil Safari brochure.

¹⁰¹ *Farmer's Weekly*, 30 Sep 2005, “Conserving rural heritage”, p. 40.

¹⁰² This section was written by Darryl David – one of the two masterminds behind the Richmond ‘book town’ concept. Contact Darryl David at cowboys@sai.co.za or Peter Baker at pcbaker@mweb.co.za. For further details (and for more about what Richmond has to offer) see the “Richmond Walkabout” feature on <http://www.karoospace.co.za>

The idea of a booktown was thought up by the maverick Richard Booth, way back in the sixties. His dream was to create the largest second-hand book-selling centre in the world. Today, Hay-on-Wye in Wales attracts over a million tourists a year. It is worth noting that Booth started it all off by himself, with just one bookshop. Slowly he started buying up the empty buildings in a town whose population was dwindling, and turned these buildings into bookshops. Booth always maintained that a town full of bookshops could be an international attraction. Today, Hay-on-Wye has 38 bookshops, and the idea of booktown is to be found in over 25 countries in the world.

Darryl David is adamant that such a project can work in SA. The booktown in Richmond will now mean that there exists a booktown in every continent of the world.

6. 'Wellness Retreats'

According to Peter Myles of the NMMU Tourism Research Unit, "holistic destinations" are commonplace in the world's dry areas (especially New Mexico in the USA) - "For any kind of spiritual retreat you need space, time to think, peace, quiet and a healthy climate. There's definitely a niche [for this] in the Karoo that hasn't really been taken up".¹⁰³

Antony Osler, of the farm Poplar Grove near Colesberg, was a co-founder of the Buddhist Retreat Centre (BRC) in Ixopo. He has a small 'zendo' on the family farm near Colesberg. Recently, he has announced plans to conduct more formal Buddhist retreats on an *ad hoc* basis, as well as to make round-the-year facilities available, for those just seeking peace and silence. As far as is known this is the only such institution in the Karoo at present (there was a small Buddhist community based in New Bethesda for a while, about 10 years ago). The BRC at Ixopo is now a substantial institution and has grown to the point where it is recognized internationally but Poplar Grove is unlikely to want to aspire to quite the same rapid development. Nevertheless it should draw many people into the Karoo, over time.¹⁰⁴

Spiritual Safaris is run by Jana Krejci from Cape Town.¹⁰⁵ Her clients' journey through the Huguenot tunnel is portrayed as being the equivalent of passing through a 'rebirth canal' between "the built-up landscape and the natural Karoo". Spiritual travellers are taken from Matjiesfontein to Prince Albert and thereafter to *Die Hel* in the Gamkaskloof. According to Krejci the Karoo "is a timeless space, where you can move from doing to being... what I call a sacred idleness".

¹⁰³ "The quiet heart", *Mail & Guardian*, 22-28 Feb 2008.

¹⁰⁴ E-mail poplargo@telkomsa.net

¹⁰⁵ <http://www.spiritualsafaris.co.za>

There must be considerable scope for similar enterprises, launched from different starting points where tourists tend to congregate (eg. Springbok, George, Port Elizabeth and also from locations such as Bloemfontein which has a good airport).

F. TECHNOLOGICAL DEVELOPMENT

1. The impact of the Southern African Large Telescope

The Southern Africa Large Telescope (SALT) installation at Sutherland provides an outstanding example of how a ‘lead’ project can lead to downstream benefits and commercial opportunities. In 2000, Sutherland had just two guesthouses and a run-down hotel. It now has over 25 accommodation establishments and a number of other enterprises clustered around the town’s ‘stellar’ motif. Groups of up to 200 tourists at a time, as well as major conferences, are now catered for – something that would have been quite unthinkable just a few years ago.

The bid for the Square Kilometre Array (SKA) installation north-east of Williston and Carnarvon will reinforce this innovative astronomical branding exercise and consolidate Sutherland’s position as the gateway to the heavens.

The SALT-Collateral Benefits Programme,¹⁰⁶ as described on the South African Astronomical Observatory (SAAO) website, points towards numerous economic opportunities which could well be replicated at several sites throughout the arid regions in South Africa. It is also an important case study of the successful generation of positive socio-economic impacts and multipliers as well as of inter-agency co-operation.

The SALT-Collateral Benefits Programme as articulated in 2002 had five main themes:

1. *SALT industrial empowerment*: This was aimed at ensuring that South Africa derived maximum collateral benefits from the SALT project to advance the economy, technology and society of the country;
2. *SALT educational empowerment*: to provide educational and training opportunities for individuals particularly from historically disadvantaged communities during the 5-year construction and 25-plus year operational phases of SALT;
3. *Public outreach and direct educational benefits*: to enhance science education and awareness throughout South African society, inspiring young people to take up

¹⁰⁶

http://www.sao.ac.za/fileadmin/files/annual_reports/2002_H.pdf.

careers in science and technology, and creating a South African society that is scientifically and technologically literate;

4. *Science education visitor centres*: to develop science and technology infrastructure, edu-tourism and educational facilities in the Northern Cape;
5. *SALT as an African facility*: to extend the benefits of space sciences to the rest of the African continent through the widening of training and scientific development opportunities, to allow South Africa and the continent to participate meaningfully in relevant international scientific endeavours in space and allied sciences

What was the situation four years later?¹⁰⁷

Meetings were held with the Municipal Manager of Karoo-Hoogland Local Municipality to establish projects such as the “Walking With Ancestors” tourism development projects.

SAAO’s role in the community has become significant and continues to grow. Regular interactions with the community of Karoo-Hoogland, with a highlight in July at the launch of the Kamamma Coffee Shop, have resulted in close relationships being established with various stakeholders. The political independence of the SAAO affords the opportunity to bring various parties together to realise common objectives. In the Northern Cape and Karoo-Hoogland in particular, SAAO was part of a recently strengthened “dream team of stakeholders” establishing working conversations amongst parties such as the Tourism Boards in each town, the Unemployment Forums in each town, the Local Municipality, the National Development Agency, the Tourism Enterprise Programme, the Succulent Karoo Ecosystem Programme (SKEP), the Military Service Corps, the Provincial Departments of Labour, Social Development, Arts and Culture, Education, Tourism and Public Works. Virtually everyone who has socio-economic development at heart has been made aware of the intention to develop this region of the country in a spirit of openness and communication without any political or other issues to hamper progress.

Some of the projects underway include:

- Regular community development meetings held monthly in each of the towns with community stakeholders (organised by SAAO)
- Informal (but well regulated) tour guide programmes to give unemployed people an opportunity to gain some experience as well as earn some cash from tips
- Informal accommodation provided by the poorer communities for tourists who want to experience life in the “townships”
- Informal arts and crafts “flea market”
- The issue of tarring the roads between the towns has been tabled at provincial level and seems like it will materialise in the near future

¹⁰⁷

<http://www.saa0.ac.za/public-info/salt-collateral-benefits-programme/post-salt-inauguration>.

- A grant for R1.5 million has recently been awarded by the Department of Arts and Culture for the development of Arts and Crafts in the Karoo-Hoogland (funds managed by the Unemployment Forum).
- Grants have been awarded to the local municipality for the development of hiking trails. The SAAO has come in to build into it an astronomy theme and offer basic astronomy training for guides, especially guides for overnight hikes (the idea is to use the military veterans to take visitors on overnight hikes).
- SAAO is looking at bringing back annual festivals in the area and linking them to all three towns with a strong astronomy component
- Guest house owners have expressed interest in learning some basic astronomy as well as possibly using amateur telescopes, to realise the vision of creating a culture of an “Astronomy Province”. This has been implemented extremely successfully.
- The SAAO has been tasked to offer advice on creating an Astronomy theme/atmosphere in some of the community development projects such as the Venus Sisters Guest House and the Kamammas Coffee Shops.
- SAAO is looking into establishing a mountain bike race in three legs between each of the towns.
- Interest has already been shown regarding off road-motorcycle routes between the towns.
- Ideas for activities for youth and unemployed include movie screenings, star parties, astronomy public lectures and sporting leagues. These, it is hoped, may help curb the rising levels of alcoholism and drug abuse. Each activity should be coupled with innovative forms of education and motivational speaking.
- Dinosaur footprints in Fraserburg to be protected and built up as a tourist destination.
- Unused equipment from the Department of Social Services Flagship Projects is sought for job creation (dormant projects include a greenhouse type vegetable garden, chicken farming equipment and cold meat manufacturing equipment)
- Project to research and document detailed histories of each town including star lore and folk tales
- Wool spinning project – the skills are contained within the community.
- Revival of the “Walking with Ancestors” tourism plan.

Almost all the projects mentioned above are in line with the Government’s ASGISA programme. The partners involved such as the NDA and TEP are organisations that have been specifically tasked with ensuring the rollout of ASGISA.

2. Ultralight Aircraft Manufacture

The Blue Crane Development Agency (BCDA), in partnership with the University of the Witwatersrand’s School of Mechanical, Industrial and Aeronautical Engineering, is in the process of designing an Ultralight Aircraft which will help promote tourism, industry and leisure, upgrade skills and create employment opportunities for the towns of Somerset East,

Cookhouse, and Pearston in the Eastern Cape.¹⁰⁸ ‘Wits Enterprise’ will be responsible for the commercialization of the project. An airfield at Somerset East will also be upgraded through the construction of a 1600-metre asphalt runway and the construction of hangers. Establishment of a flying school for previously disadvantaged individuals is planned, as well as development of a light industrial park that will include an aircraft assembly plant. The aviation project will contribute to the experience of business and leisure travelers in the district, with positive spin-offs for the community.

The research team will be drawn from Wits staff members and students with expertise in aircraft design, performance estimation, technical drawing, and wind tunnel testing. The team will assess the operational requirements and human needs before commencing the design. Production of the prototype will commence in the second phase of the project.

The two-seat Ultralight Aircraft will have a local composite or aluminium structure and will have good flying qualities with low stall speed and high-speed cruise. It will be built to comply with Ultralight regulations in order to satisfy the international export market. The desire is to create an export market for SA-developed aircraft and to create a skills pool in the field of ultralight aviation.

G. MINING

1. Uranium

The map below reflects viable uranium deposits in South Africa, including those in the arid regions: The uranium price has increased five-fold between 2003 and 2007. Exploration worldwide has increased 10-fold since 2004 and there are 30 pending applications for exploration in the Karoo alone. Australia is the world’s biggest producer at present (24% of world production) and might serve as a source of ‘best practice’ for South Africa (which produces 7% of world output)¹⁰⁹ to mitigate the massive impacts of uranium mining on the environment, the local economy, transport links, as well as on the socio-economic conditions in those areas which fall within a mine’s ‘footprint’.

South Africa recently announced that it intends to enrich its own uranium and that it will build four to six pebble-bed nuclear reactors by 2030. Uranium is arguably one of the world’s most strategic minerals and this status is likely to be accentuated by the fact that there has been a sea-change in environmentalist circles towards favouring nuclear power as the only viable alternative to carbon-based sources of energy, to combat climate change.¹¹⁰

¹⁰⁸ “Ultralight aircraft to help boost tourism and economic development”, June 2007, *WITSReview*, p. 43.

¹⁰⁹ *Creamer Media’s Mining Weekly Online*, 6 Apr 2007, “South Africa moves ahead with uranium exploration”.

¹¹⁰ *Mail & Guardian Online*, 15 Oct 2007, “Bell the cat”.

Barely a year ago, Patrick Moore, a co-founder of Greenpeace, wrote that: “Nuclear energy is the only large-scale, cost-effective energy source that can reduce ‘greenhouse gas’ emissions while continuing to satisfy a growing demand for power.”¹¹¹

But uranium mines require huge quantities of water and it is likely that any concerted effort to exploit SA’s uranium reserves, is also likely to generate considerable conflict on any number of levels, not least from those in the environmental lobby opposed to mining activities in fragile eco-systems. Impacts can be anticipated right across the board. It will require holistic management in order to strike a balance between conflicting agendas and lobby groups, to arrive at ‘win-win’ outcomes.

The implications of this potential development for the Karoo are likely to be far-reaching and profound. The Rossing opencast uranium mine at Arandis near Swakopmund in Namibia is another site which could be studied with a view to understanding potential impacts in an arid African setting.

The Northern Cape is world renowned for the wealth of its reserves of Tigers Eye deposits, and salt mines and pans are also characteristic of the province.¹¹² Kimberley is of course famous for its recently revamped “Big Hole” and is synonymous with diamonds and De Beers.

2. Green Sand

Beneath the dusty earth of the Karoo lies a pegmatite belt which stretches from Marydale to the rugged, mountainous area south of the Orange River in Namaqualand. Pegmatite is a coarse-grained granite resulting from the crystallisation of magma and is rich in rare elements such as uranium, tungsten and tantalum.

One SA company, African Pegmatite, has been operating in the area for around 25 years. It obtains organic and inorganic minerals and chemicals and from them produces a range of materials which are used in industry and agriculture.

One of these products is Aquasite Manganese Sintered Green Sand, which is an efficient and economical method of removing dissolved iron, manganese and hydrogen sulphide salts from raw water supplies, making the water safe for drinking.

The innovation has been used in areas of Limpopo and the Northern Cape, as well as commercially in the breweries of Namibia. It has achieved wide international acceptance, particularly in desert regions.¹¹³

¹¹¹ *New Zealand Herald*, 10 Sept 2007 urging its government to reconsider its anti-nuclear policy

¹¹² Pixley ka Seme *District Growth and Development Strategy 2007/8 to 2012/13* p. 41.

¹¹³ <http://free.financialmail.co.za/innovations/3sept/binn.htm>

H. ENVIRONMENTAL RESOURCES

1. Botanic gardens

Botanic gardens contribute to the management of fragile ecosystems in arid zones by promoting sustainable or alternative livelihood systems in areas prone to desertification. Botanic gardens can also provide support for sustainable tourism, through the development of 'orientation centres' or 'habitat plantings' within their grounds, the publication of inexpensive wildlife guides or information sheets, and through co-operating with national parks for naming and labelling 'botanic garden paths' within the reserve. The development of botanic gardens in several parts of the world has provided a valuable educational resource for alerting tourists to the fragility of certain environments and for promoting erosion control and sustainable tourism practices.¹¹⁴

A botanical garden has recently been opened in Nieuwoudtville and holds out exciting prospects for capitalizing on this area's iconic association with the annual display of Namaqua daisies and the rich diversity of plant life in the district:

A new national botanical garden is to be established in the Northern Cape town of Nieuwoudtville, on a 6300-hectare farm atop the Bokkeveld Plateau. The area is renowned for its diversity of bulbous plants, with Nieuwoudtville often referred to as 'the bulb capital of the world'. The garden will also comprise large natural patches of renosterveld fynbos and succulent Karoo vegetation. Some 1 350 plant species have so far been recorded on the Bokkeveld Plateau, including 80 range-restricted or endemic species. Almost a third of the species endemic to the Bokkeveld Plateau were threatened with extinction. The new garden was set to open in January 2008.¹¹⁵

According to a recent report: "Because South Africa has the richest and most varied flora in the world, thousands of overseas visitors come every year to see our wildflowers... the annual pilgrimage to view the spectacular spring flower in the Western Cape and Namaqualand is a multimillion rand industry that benefits many sectors of the economy".¹¹⁶ Guestfarm owners are advised to compile an inventory of the flora on their properties, just as they would for mammals or for bird life. This can prove to be a value-adding feature especially where "rare or very interesting plants that are well conserved" occur. Providing a printed checklist can add greatly to an establishment's attractiveness in the event of its being patronized by botanically minded visitors. Such visitors would also be well advised to take advantage of the botanical walks offered at Prince Albert by Prof Sue Milton who is a world authority on the flora of SA's arid regions.

¹¹⁴ www.bgci.org.

¹¹⁵ IOL Online, 29 August 2007, "New botanical garden opens in Northern Cape" <http://www.iol.co.za>

¹¹⁶ *Farmer's Weekly*, 23 Nov 2007, "Botanical tourism", pp. 28-29.

2. Bottled water

According to John Weaver, chairman of the South African National Bottled Water Association, local mineral water consumption grew by 35% in South Africa in 2006.¹¹⁷ Weaver insists that those who would enter this business must be salespeople at heart as “90% of the hard work lies in the packaging, marketing and distribution”. It costs at least R50 000 to sink a borehole and the borehole has to be well protected. The SABS standard, SANS 1657, has rules for treatment, testing, bottling, packaging and labeling. Weaver reports that water found in the Karoo and the Kalahari is typically “high-saline” and therefore suitable for bottling. This is a fulltime business and is not something one does ‘on the side’.

According to Weaver, the local market in SA generates turnover of some R500-million per annum, and there are about 90 bottlers of natural water country-wide producing over 120-million litres a year. According to a more recent media report however, turnover in 2006 was R2-billion on 260-million litres of bottled water (this *excludes* flavoured water) with “sales increasing by about 20% per year”. In 2007 a 34% increase in turnover was predicted. The world market is 89-billion litres per annum and SA imports 3-million litres every year. According to a WWF spokesman South Africans have no need of bottled water because the country’s water quality is the third highest in the world but SA consumers are clearly unconvinced – or else believe that bottled water contains some healthful ‘value-add’.¹¹⁸ It would appear that the market for bottled water in SA is still very from being saturated.

There is a ‘Great Karoo’ brand of bottled water that is “bottled at source” on the Noblesfontein farm near Victoria West, and the Roode Bloem Dairy in Graaff-Reinet distributes what it labels as ‘Farm Water’. It is not known, at this point, how far beyond their towns of origin these producers distribute their product.

3. Carbon sequestration

According to a recent media report, “The value of the [international] carbon market is likely to grow to US\$100-billion in the next three years [i.e. by 2010]... organised agriculture in South Africa cannot afford to ignore developments in the carbon market.”¹¹⁹ This is likely to prove both an opportunity and a challenge for local producers. According to the CEO of the Marks & Spencer chain store in the UK, their business will change the way it operates “beyond recognition”: “We will become carbon neutral... we’ll clearly label the food we import by air. UK, regional and local food sourcing will be a priority. We’ll also help our suppliers and customers to change their behaviour”. The CEO of Tesco says that Tesco plans to instigate a “green consumption revolution”.

According to the USGS International Programme:

¹¹⁷ “Can you tap bottled water?”, *Farmer’s Weekly* 23 Nov 2007, p. 34.

¹¹⁸ “Water on tap, please”, *Mail & Guardian Online*, 5 Mar 2008 <http://www.mg.co.za>

¹¹⁹ *Farmer’s Weekly*, 7 Sep 2007, “What you should know about the carbon market”, pp. 38-40.

“The problem of carbon accumulation in the atmosphere will not simply go away. The transfer of carbon from long-term storage pools of the biosphere and fossil fuels will continue at high rates even were the Kyoto Protocol to be implemented successfully. Maintenance of atmospheric concentrations near those existing today will require extreme efforts, if they are to be attained within one or even two centuries. Although 43% of the total emissions contributed by humans ... was as a result of land use, most of this occurred in temperate zones and one-third occurred before 1850. Today most of the land use emissions are concentrated in the tropics. And, although the emissions from fossil fuels in developed countries far exceeds that from developing countries, this will likely be reversed within the 21st century.”

The single most significant activity which can be implemented soon to mitigate this increase in carbon is to sequester carbon in forms and pools that are relatively inert. Although geological sequestration may be important, it is biological sequestration of carbon in biomass and in soil organic matter which may have the greatest impact during the immediate few decades... Sequestration of carbon in soil organic matter can have large impacts in reducing the rate of increase in the atmosphere and that doing this is of special value. This special value accrues because of the accumulation of soil organic matter has manifold benefits, including enhanced fertility and sustainability. Furthermore, this has the potential to thereby reduce pressure on land conversion from forests to more agricultural land. Thus, carbon sequestration in soil does, in actuality, have a greater ecological service.

While the majority of land use projects to date have been in the forest sector, soil carbon projects in semi-arid and sub-humid Africa provide the following unique opportunities: The land has relatively low opportunity cost relative to humid tropical forests, where in many cases climate mitigation may not be able to compete with logging or agricultural land demands; and therefore, while the tons of carbon per hectare is relatively small relative to forests, the overall potential for cost effective climate mitigation is quite large.

Arid regions of Africa have very low rates of energy emissions, so they do not present great opportunities for reductions in their energy sector. Soil carbon projects offer an opportunity for semi-arid regions of Africa to meaningfully participate in climate mitigation, while improving human well being. Sub-Saharan Africa’s crop productivity is extremely low due to land degradation and desertification.”¹²⁰

Whether carbon sequestration would be a commercially viable option for South Africa’s arid areas has yet to be established, although ‘carbon fixing’ is being experimented with in the

¹²⁰

See USGS International Program website

Baviaanskloof through the planting of *spekboom*.¹²¹ It is reported that farmers in the USA, “earn income by storing carbon in their soils through no-till production¹²² and long-term grass-seeding”.¹²³

As for earnings related to carbon credits it is reported that:

“A 400ha area of Eastern Cape thicket... is poised to become the first Eastern Cape project to earn more than R1-million a year in carbon credits in a bid to reduce the world’s greenhouse gases... Eastern Cape thicket which had become degraded by farming and was successfully rehabilitated, was able to store four times more carbon in the soil.”¹²⁴

It was claimed at the 42nd annual conference of the Grassland Society of South Africa that the Eastern Cape needed to rehabilitate 800 000ha of thicket, as “a whole biome has been trashed and needs restoration” and that “the coming carbon economy could earn goat farmers three times more per hectare.” According to Prof Richard Cowling,

“The Eastern Cape had 112 areas of thicket which were available for restoration, and carbon credits of around US\$10 per hectare annually over a 20-year period could be more lucrative than goat farming... the dollar rate was linked to the ability of restored thicket to produce soil carbon.”

“Research had shown that the Eastern Cape’s semi-arid thicket was like a ‘Lilliputian forest’ with ‘millions of stems’ which were able to absorb carbon dioxide from the atmosphere and store it in the soil at a fast rate [but] research had [also] shown that degraded thicket did not restore itself even if grazing was stopped, and needed active rehabilitation. Farmers who ran restoration projects could still farm goats and sheep while earning credits.

Prof. Cowling predicted this would be happening increasingly in five to 10 years time.¹²⁵

Cleaner Climate is a UK-based company which is “offering to cover the costs of installing manure digesters that would earn carbon credits for [large-scale livestock]

¹²¹ *Farmer’s Weekly*, 7 Oct 2005, “Engineering biodiversity”, pp. 48-49. See also *Landbouweekblad*, 22 Feb 2008, “Spekboom gee skoon lug en vet vee”, pp. 24-25.

¹²² For an interesting account of successful conservation agriculture (CA) achieved by Jaco van Niekerk of Luckhoff via no-till farming see *Farmer’s Weekly*, 26 Oct 2007, “No-till success on the Orange River”.

¹²³ *Farmer’s Weekly*, 7 Sep 2007, “What you should know about the carbon market”, p. 39. See also *Farmer’s Weekly*, 28 Sep 2007, “Registering a carbon reduction project”, pp. 38-40.

¹²⁴ *The Herald Online*, 25 Jul 2007, “Arid E Cape bush will earn millions in carbon credits”, http://www.theherald.co.za/herald/news/n04_25072007.htm

¹²⁵ See also *Landbouweekblad*, 4 Jan 2008, “Daar is dalk geld in warm lug”, pp. 20-22. and *Farmer’s Weekly*, “How Green is SA’s first carbon neutral farm?”, p. 9.

farmers. Methane could then also be used to generate electricity... Smaller farmers could pool their manure together and truck it to a central facility.”¹²⁶

4. Game ranching

According to a recent report, “The economic value of SA’s game ranching industry is estimated at nearly R5-billion. It depends on the capture and translocation of some 70 000 animals annually, mostly antelope and other herbivores, generating an estimated R750-million to R900-million”.¹²⁷

Professor Bothma of Pretoria University’s Centre for Wildlife Management reports that a wildlife auction, which in 2006 realised sales totalling R95-million, started in 1975 with a turnover of just R20 000. At that time impala fetched R30 apiece.¹²⁸ Although the industry has grown by leaps and bounds, according to Bothma in 2000 eco-tourism contributed just 4.7% to the gross income of wildlife ranching. The industry “can become even more profitable by expanding what it has to offer tourists, diversifying its product range and becoming more professional”.

A recent study by the Centre for African Conservation Ecology at the Nelson Mandela Metropolitan University (NMMU) confirms that private game reserves (PGRs) provide a desirable alternative to traditional ways of using land, even though setting up such ecotourism ventures can cost in excess of R15-million.¹²⁹ Of especial interest is the degree to which additional employment opportunities are created. Far from putting farm workers out of work, as critics claim, the sample used in the study had absorbed virtually all the former farm workers on the farms involved - and boosted its staff complement by 450 percent.

This report makes a number of compelling points about the multiplier effects of eco-tourism on the Eastern Cape’s provincial economy, achieved, ironically enough, in the face of mounting hostility towards the industry from a number of state agencies. Some important findings detailed in the study are that:

- PGRs provide accommodations ranging from six to 110 beds and charge from R1500 to R4750 per person per night.
- PGRs are increasingly moving in the direction of luxury lodges
- Although the total number of overnight tourists to PGRs per year has risen dramatically, the average has stayed relatively stable at around 6000 per PGR.
- PGRs target the foreign market and upper-income groups. Most visitors come from Europe and the United Kingdom with only one in 20 coming from the USA. This suggests that much more could be done to increase the number of visitors from this

¹²⁶ *Farmer’s Weekly*, 22 Feb 2008, “Money from manure”, pp. 44-46.

¹²⁷ *Farmer’s Weekly*, 30 Nov 2007, “New transport standard for game industry”, p. 26.

¹²⁸ *Farmer’s Weekly*, 26 Oct 2007, “Game ranching has room for growth”, p. 27.

¹²⁹ *Farmer’s Weekly*, 17 Aug 2007, “Everyone wins with game”, pp. 58-59.

country. About one in eight visitors is from South Africa but from outside the Eastern Cape.

- The biggest share in total expenditure is accounted for by land purchases which make up about a third of the capital outlay. This is followed by the construction of facilities (about a quarter) and the purchase of game (12.5 percent). Thus these three outlays account for about 70 percent of total expenditure.
- There is no indication that the market is becoming saturated.

The somewhat truculent stance towards the industry exhibited by local and national government is difficult to comprehend. Proponents argue that the money PGRs generate elevates former farm workers' quality of life, and the PGRs succeed in "developing ways of using land that are socially just, economically viable, and ecologically appropriate." This is the win-win outcome of a difficult balancing act that organs of state in South Africa have to date shown little sign of achieving. According to an exporter of venison, "the carrying capacity of a game farm is much higher than that of a cattle farm... this means more meat and more money."¹³⁰

In 2002, Karoo Wild Dienste was formed.¹³¹ This is a partnership between Willem Vorster of Melton Wold, between Victoria West and Loxton, and Nicola van der Westhuizen of Jakhalsdans, just outside Loxton. Both had been involved with the capturing and transporting of game and decided to pool their expertise and infrastructure. In addition they hit on the idea of holding "their own game auctions to give better exposure to their operations and build up a firm client base". The auctions are held twice a year and alternate between the two farms which are 50km apart. A typical auction will involve about 500 animals representing about 25 species. In 2006 buffalo, from a breeder in Mpumalanga, were auctioned. (According to a report quoted from below¹³² the going price for buffalo is around R200 000 each). The capturing and transporting of the animals to the holding bomas ahead of the auction is in itself a considerable logistical undertaking sometimes involving animals being airlifted. There are numerous risks attached to the exercise and the allocation of risk is a factor that all parties to a transaction, or relocation exercise, must understand very clearly. The target market is buyers from the Western and Northern Cape and advertising is mostly done by the auctioneering company.

In 2006, Wildlife Translocation Services was paid in excess of R1-million to transport 3000 head of game from the Wintershoek nature reserve, 80km south-west of Kimberley, to two new homes, one 60km outside Kimberley and the other near Philippolis in the Free State.¹³³

¹³⁰ *Farmer's Weekly*, 22 Sep 2006, "Impala culling – tips for exporting", pp. 46-47; *Farmer's Weekly*, 14 Jan 2005, "Private reserves now big earners", p. 37..

¹³¹ *Farmer's Weekly*, 28 April 2006, "Building a sound client base through game auctions", pp. 42-43.

¹³² *Landbouweekblad*, 5 Oct 2007, "Tyson is baas op hierdie plaas", p. 6. But see also *Farmer's Weekly*, 15 Feb 2008, "Great year for live game trade", p. 48-49 where the average auction price realized for buffalo in 2007 is given as R135 000.

¹³³ *Landbouweekblad*, 5 Oct 2007, "Tyson is baas op hierdie plaas", pp. 4-6.

The industry seems to experience ongoing difficulties with provincial DEAT offices who are frequently either ill-equipped or simply not capacitated to facilitate compliance with their own regulations – for example a permit will be required for a specific activity, but the department is unable to supply application forms timeously.¹³⁴ Such a lack of bureaucratic professionalism can only have deleterious impacts on what is an important contributor to the rural economy.

At the farm New Holme, near Hanover, the hippo has been re-introduced, after an absence of about 230 years, on the 12 000ha Karoo-Gariep conservancy. The hippos are confined to a 300ha area but it is hoped that in time 40 to 50 will have the run of 70 000ha on eight farms covering about 80km of the Zeekoeirivier. Apparently the last hippo in the Northern Cape was shot in the Augrabies district in 1930.¹³⁵

5. Solar energy

The recent advent of ‘load shedding’ has highlighted the critical problems facing South Africa’s future energy supply – ironically at a time when the world is being entreated to reduce its carbon emissions.¹³⁶

Enthusiasm for solar generated energy has in the past tended to be blunted by the fact that solar produced electricity is so much more costly than the conventionally produced alternatives. But it looks as though the gap between the two modes of energy production may be fast narrowing with coal-generated power rapidly escalating in cost (not to mention the damaging environmental costs).¹³⁷ The price of coal has climbed steeply since 2005 (possibly driven by China’s voracious demand for natural resources).

Eskom, after having built a pilot installation in the area in 2003, now intends to build a “multimillion-rand solar plant near Upington that will generate 100MW” . This will be the first “major solar energy project in Africa” and it is perhaps surprising that it has taken so long for this ‘free’ resource (sunshine) to be exploited in SA’s arid regions. It is reported that Upington gets more solar radiation annually than sites in California, Nevada and New Mexico in the USA as well as more than countries such as Jordan, Morocco, Crete and India.

If it is indeed the case that an area of 5000 square km could produce all of South Africa’s electricity requirements from concentrated solar power, then it would seem to be only a matter of time before the Upington site is replicated in other parts of the Karoo.

¹³⁴ *Farmer’s Weekly*, 11 Jan 2008, “Game ranchers in for a rocky ride”, p. 34; *Landbouweekblad*, 4 Jan 2008, “Nuwe intrekker se seining”, p. 5.

¹³⁵ *Landbouweekblad*, 14 Sep 2007, “Seekoeie tuis in Karoo”, pp. 42-43.

¹³⁶ United Nations Development Programme (UNDP), 2008. *Human Development Report 2007/8*.

¹³⁷ “ESKOM looks to the rising sun”, *Mail & Guardian*, 22-28 Feb 2008.

I. KNOWLEDGE INDUSTRIES

1. Renu- Karoo Veld Restoration

The Karoo Space website,¹³⁸ writes of Professor Sue Milton, based in Prince Albert, that she “has the noblest job description I’ve ever encountered. She is a restoration ecologist. She and partner Richard Dean advise landowners and mine rehabilitation managers how to bring back the Karoo to a semblance of what it used to be”.¹³⁹

According to Milton: “There are two major trends prevalent in the Karoo at the moment... One is people who aren’t farmers buying the land, knowing that it can’t support much livestock, but hoping to improve it and put some game on. The other one is subdividing land belonging to the state and redistributing it to small emerging farmers. Both have their potential problems. The small farms are often too small for the livestock to be rotated, so the veld degrades fast... But wild animals on larger pieces of land are not necessarily a panacea either... especially if they are stocked in high numbers, or unsuitable species are introduced. You can move livestock and leave a camp alone for a long time to recover. You can’t do the same with game; they would have to be captured or culled.”

According to Sue Milton, “The most successful landowner restoration project was in the Barrydale/Ladismith area... Advised by Ken Coetsee of Conservation Services, [the landowner] left the land alone for five years before bringing game on. There [had been] areas of completely bare veld. They dug basin shaped holes and sowed indigenous seeds. From being completely bare, there are now perennials growing in the hollows. The good news about restoring the Karoo is that, given patience and understanding of how to re-establish palatable plants, and to capture soil and water, the caring land manager can bring the battered Karoo veld back to life. The bad news is that this takes time....”

Renu-Karoo also supplies indigenous seeds and plants for southern Karoo veld restoration and landscaping.¹⁴⁰ Sue Milton and Richard Dean are internationally renowned natural scientists and have authored a number of seminal publications including the recent *Karoo Veld: Ecology and Management* (written with Karen Esler).¹⁴¹

2. The Heartland Karoo Research Institute

Better known as the “Karoo Institute”, this small research company is the brainchild of Doreen Atkinson and operates from the van der Post House in the southern Free State town

¹³⁸ <http://www.karoospace.co.za>

¹³⁹ <http://karoospace.co.za/karoo/content/view/83/33/>

¹⁴⁰ For more details see <http://www.renu-karoo.co.za>

¹⁴¹ Esler, K.J., Milton, S.J. & Dean, W. Richard J. 2006, *Karoo Veld: Ecology and management*. Pretoria: Briza. See also Aronson, J., Milton, S.J. & Blignaut, J.N. 2007. *Restoring Natural Capital* Washington: Island Press.

of Philippolis. It is a partner organisation of the Centre for Development Support (CDS) at the Free State University. Doreen is a visiting professor at the CDS and CDS hosts the Arid Areas Programme in terms of which this report was initially compiled. The report's author, Mark Ingle, is a co-director of the Karoo Institute.

The Karoo Institute was established in July 2004, with the purpose of promoting socio-economic and environmental research in the arid areas of South Africa but with an especial focus on the Karoo. The Institute undertakes research on political and socio-economic issues in arid regions, as well as on South African development more generally. The following topics give some idea of the issue areas that the Karoo Institute has researched and specialises in:¹⁴²

- Local government
- Intergovernmental relations
- Policy analysis
- Institutional change
- Governance, democracy and participation
- Water and sanitation
- Participatory planning
- Local Economic Development (LED)
- Small towns and rural development
- Land reform and redistribution
- Sustainable livelihoods
- Agricultural labour
- Community-based agriculture.

¹⁴²

For fuller details see <http://www.aridareas.co.za> or e-mail karoo@intekom.co.za