



THE ARID AREAS PROGRAMME

VOLUME 6

ARID AREAS WORKSHOP

SUTHERLAND, 13 SEPTEMBER 2007



A Research Project funded by the Open Society Foundation

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November 2007

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Keynote address: Ms Sue van der Merwe, Deputy Minister of Foreign Affairs.

Chairperson
Distinguished delegates
Ladies and gentlemen

It gives me great pleasure to be here today to address this symposium. This workshop promises to be a platform for a rich exchange of ideas. I think the location for the workshop in Sutherland is also very appropriate as it is the heart of a great desert but also at the heart of a great technological achievement in the Southern African Large Telescope (SALT), representing the diversity of our country and her people.

I was born and brought up in Port Elizabeth and attached to the school that I attended was a boarding school. Most of the girls at the boarding school were children of farming families from the Karoo. I therefore regularly came to the Karoo to spend holidays with my friends. Later in my life I read the book by Eve Palmer called the "Plains of Camdeboo" which evoked in me nostalgia for the school girl days on the farms, but which also enriched my understanding of the wealth of life and beauty that this part of the world has to offer. The book is a story of a farm in the Eastern Karoo and life of a family on that farm.

Her opening paragraph explains the love that a Karoo born family has for this place in most evocative terms: "Few people have the good fortune to be born in the desert. I was. All my life I have been conscious of my luck. Not, indeed, that we of the Karoo often think of our land as desert. It is the travellers who have crossed our plateau for two hundred years, and our visitors of today, who have called it this and still do.

They are right or almost so! And like other deserts and semi-deserts of the world, ours is a country of life. We have only to walk or ride into the veld to know this and be caught up in its pattern: the squat, fat, angled plants; the hunting spiders that flicker between them; the ground squirrels upright beside their burrows; the vultures, the pale wild gladioli, the cobras, the scorpions, the mantis coloured like a flower; the black beetles rolling balls of dung; the koringkrieks lurching on immense and crooked legs.

Here moves a steenbok, a duiker, a springbuck, a lark clapping its wings above us here are the tracks of an ant-bear in the soil, red dust and a mottled egg upon it, arrowheads, the smell of rain, karoo bush, wild asparagus, mountains and hills floating in a mirage of water, a white hot sky; the sound of cicadas and wings and wind."

It is this richness of the natural world, combined with the people who live and work on this land that we are here to discuss, to explore ways to grow what we have in abundance here and make this world a better one for all who live here.

My title is Deputy Minister of Foreign Affairs, which seems pretty far removed from the Karoo. The reason that I am here is because of the end initiative by government to deploy national ministers and deputy ministers to various municipal district facing service delivery challenges with a view to assisting them overcome these.

I am deployed therefore, as the Nodal Political Champion for the Central Karoo District. I am particularly proud to be associated with the Karoo and trust that forums such as these provide a further opportunity through which we can collectively contribute towards the betterment of the lives of our people.

I would like to reflect on the relationship between the environment and development and the impact that arid areas have on the lives of people that live in the Greater Karoo. This is particularly important if we depart from the view that to improve the lives of people, sustained levels of economic growth are essential. We need to ask the question, what are these key features of the Greater Karoo economy that would need to be developed to attain this desired growth?

According to a concept document kindly forwarded to me by Professor Atkinson, economy, of the Greater Karoo, been largely based on extensive sheep and goat farming. Irrigation agriculture is concentrated along the rivers, mainly the Orange River, the Fish River, the Sundays River and the Riet River. During the last 50 years, extensive stock farms have grown even larger and shed a great deal of labour.

Many of these unemployed farm workers have drifted to the towns, to join the ranks of the urban unemployed. The recent advent of game farming has contributed to this trend, although opportunities in agri-tourism and eco-tourism have created scope for new and more sophisticated types of employment. But the urban economy of the arid areas is very fragile. Typically, the business sector is small, and there is virtually no industrial base. There is an incipient informal sector in most towns, often linked to pension pay-out days. Consequently, many of the educated and talented young people leave for the cities.

The sheer aridity of the area fundamentally shapes the area, in numerous ways: The spatial design of towns (usually about 60 to 100 kilometres apart) the low rainfall which results in a focus on small livestock farming (sheep and goats); the dependence on underground water resources, the lack of industrial development and the consequent out-migration of people in search of work; the huge potential for desert tourism; the logistical challenges of road and telecommunications networks and the in-migration of city dwellers who value the remoteness and tranquillity of small towns. In addition, there is a growing appreciation of the fragility of the Greater Karoo ecosystems, which require careful environmental management.

This characterisation of the economy of the Karoo illustrates the point I made earlier about the connection between the environment and development. (In the context of the Greater Karoo) The picture could seem quite gloomy and uncertain for the future development of its people. Government fully appreciates the fragility of the Greater Karoo ecosystems and the developmental challenges facing its peoples. Towards this end

it has taken a number of deliberate policy initiatives to mitigate the effects of human activity on the environment, whilst at the same time increasing opportunities for sustainable development.

Firstly there is the inclusion of the right to environmentally sustainable development in the Constitution. This has emphasised the importance of the sustainable use of natural resources. The country's natural resources are the nation's natural capital and play a significant role in overall sustainable development and poverty eradication.

As you are aware, arid and semi-arid lands comprise around 50 percent of the world's total surface area. Many of these are threatened by desertification and degradation from human activities. South African contains almost 10 percent of the world's known bird, fish and plant species and over six percent of the world mammal and reptile species. This rich diversity of flora and fauna is shared in large measure by the Greater Karoo, but unfortunately this natural wealth is under extreme pressure from human activity and from climate change.

In southern Africa, the arid and semi-arid regions are characterised by extremely high levels of plant diversity. These areas support a large number of commercial and communal stock farmers utilising the ground cover as feed for cattle, sheep and ostriches. The Northern and Western Cape provinces are home to some of the largest arid rangelands in southern Africa, but overgrazing on communal and commercial rangelands have been a major threat to nearly two-thirds of the Succulent Karoo.

However, this must not be read to suggest that the resolution of the development challenges facing the Greater Karoo lie only at the hands of its people. The challenges are much more complex than that, encompassing amongst others, three broad areas for consideration:

- * the recognition of the importance of linking ecological research with issues of a more social and economic nature
- * the question of adapting and planning socio-economic development to fit the constraints of the ecological biome which straddles provincial and national boundaries
- * the consequences of human activity that goes beyond the provincial and regional boundaries, but owe their origin to global processes of development contributing to climate change.

Firstly, in order to preserve our magnificent heritage and environmental capital and ensure that that are passed to future generations intact, we need to accelerate the implementation of programmes in support of ecological and socio-economic planning. In the document entitled "Towards a Ten Year Review" on the implement of government programmes, we recognised the fact that the natural resource base provides the basis for substantial economic gains. Millions of rural South Africans depend upon biological resources for their day-to-day survival.

However, while access to this "natural capital" provides a crucial contribution to livelihoods, an important buffer against poverty and an opportunity for self-employment, such access needs to be balanced against the conservation of these resources for future

generations. I believe that the scientific community also recognises the importance of linking ecological research with issues of a more social and economic nature, reflected here today in the subject of this workshop.

Secondly, the inter-provincial and cross-border nature of the challenge is also a major part of government's development priorities. One of the major challenges facing government in its quest to provide basic services to all its people, progressively improve the quality of life and life chances of all South Africans and eradicate the dualistic nature of the South African economy, the so-called first and second economy, has been the effective integration, co-ordination and alignment of the actions of the three spheres of government.

The specific focus of this workshop on the development of arid areas presents yet another coordination challenge, this time from an inter-provincial perspective. You may be aware that government is currently engaged with the development of a "policy process on the system of provincial and local government" and some of the issues that this process seek to address include the purpose, structure and functions, number as well as sources of funding for provinces. Hopefully this is the beginning of a process that will result in better co-ordination amongst provinces, particularly those designated as arid areas. As an attempt to resolve this challenge, Cabinet, at its January 2003 Lekgotla, approved the National Spatial Development Perspective as an indicative tool for the purposes of national development planning and requested The Presidency to initiate further consultations with other spheres to realise this objective. President Mbeki in turn called for the harmonisation of the National Spatial Development Perspective (NSDP), the Provincial Growth and Development Strategies (PGDS) and the municipal Integrated Development Plans (IDPs).

The NSDP describes the national space economy in terms of key demographic, human settlement, economic and environmental trends. It also identifies areas of national strategic economic importance and extreme need. Two broad elements are used in this regard, namely economic potential and need. Concerns have been raised that our approach in seeking to harmonise the national, provincial and local development plans with the view to providing infrastructure primarily to areas with "economic potential" could be to the detriment of the Greater Karoo.

This is not the intention. While it is government's intention to give focus and impetus to areas with high growth potential it is also committed to improve social and economic conditions of all South Africans, wherever they are. Our rights as citizens of the country are entrenched in our constitution in the Bill of Rights. And these rights are sacrosanct. But as Martin Luther King Junior observed, this is not just a matter of rights or choice alone but that "All of life is interrelated. We are all caught in an inescapable network of mutuality, tied to a single garment of destiny. Whatever affects one directly affects all indirectly."

Therefore, based on what we know now about the Greater Karoo, we can all agree that it fits both elements, namely, economic potential and need. Beyond their rich biodiversity

and scenic beauty, the arid areas that constitute the Greater Karoo are endowed with abundant alternative energy sources, including the potential of renewable energy in a wealth of biomass, solar and wind resources.

In addition, today's workshop is located near the site for our bid for one of the world's most prestigious scientific projects, the Square Kilometre Array (SKA). Although the centre for the location of the SKA is the Karoo, stations of the SKA telescope will be spread over a vast area covering several other African countries, including Namibia, Botswana, Ghana, Kenya, Madagascar and Mauritius.

The SKA project promises a lot of positive development based on current budget projections. The SKA's current budget is approximately R14 billion and it is estimated that the running costs per year will amount to about R150 million. It is expected that a significant part of both the capital and operating costs will be spent in southern Africa and South Africa but particularly in the Northern Cape.

Thirdly, the cross-border character of the arid areas project also presents opportunities and challenges. On the opportunities side, it gives further credence to the notion that the Southern African Development Community (SADC) remains the primary vehicle for South African policy and action to achieve regional integration and development within all priority development sectors.

Regarding the challenges, the sheer vastness of the Arid Areas Karoo, which straddles a number of countries, Namibia and Botswana within the southern African region, would require a synchronisation of our policies and programmes. This could be a lengthy and complex process and time is not on our side. However, we can take courage from the fact that there are already collaborative environmental projects that we have successfully undertaken with a regional perspective. Mention can be made here of the highly regarded Transfrontier Conservation Areas, which accord with the vision of New Partnership for Africa's Development (Nepad), of economic, social and political integration within the continent.

Ladies and gentlemen, perhaps we could also reflect a bit on the broader global challenges within which this arid areas challenge of development is located. This is particularly important because the consequences of developmental activities elsewhere have a bearing on our environment and it is therefore important to also reflect on these challenges and how we deal with them. Speaking at the opening of the World Summit on Sustainable Development, which South Africa had the honour to host in 2002, President Mbeki summarised this complexity as follows:

Understanding the umbilical cord that ties us to the planet earth, we are determined to do everything possible to save the earth from ourselves, to ensure that as it took millions of years for humanity to evolve and emerge, so must humanity survive and develop for millions more years on the basis of a healthy partnership between people and the planet, on the basis of a sustainable relationship between a prosperous world and a healthy environment.

It is expected that globally, due to the effects of human interference and climate change, by the middle of this century, 20 to 30 percent of plant and animal species are likely to be at risk of extinction as a result of climate change. Closer to home, in sub-Saharan Africa, the Intergovernmental Panel on Climate Change (IPCC) has indicated in their latest report published in June of this year that between 25 and 40 percent of animal species in national parks will be confronted by further threats to their status.

In South African, the fynbos and succulent karoo ecosystems seem particularly vulnerable and should there be a global temperature increase of two to three degrees celsius during this century, we stand to lose between 50 and 65 percent of our unique fynbos. The negative impacts and pressure on the biodiversity of our region are ever increasing and are likely to be exacerbated by the potential impact of global climate change within the next decade. Given the task of addressing these challenges at the scale of the Biome, there is a dramatic need for the development of new strategies and the training of conservation professionals, particularly professionals who understand the links between biodiversity and socio-economic development.

The projected climate change impact in South Africa could potentially see the disappearance of thousands of indigenous plant species, especially in the Succulent Karoo, north of the Richtersveld, as only the hardiest of plants of that biome will be able to survive. The Great Karoo will become drier and more desert-like, particularly in the west. Grasslands could be transformed into savannah as the climate changes and woody plants could invade grasslands. The northern arm of the world renowned fynbos biome may disappear altogether resulting in many endemic species becoming extinct. Fire may become more frequent and extensive in the fynbos and could disrupt many of the close and essential relationships between indigenous plants and animals.

It was therefore with good reason that the United Nations Commission for Sustainable Development (CSD) chose the themes for the 16th session of the CSD in 2008 "drought, desertification, land, agriculture, rural development and Africa." The continued deterioration of our biodiversity linked to desertification and climate change are the world's most alarming causes of environmental degradation.

Desertification and climate change are interlinked in multiple ways. They represent two faces of the global environmental challenge of the 21st century. Ever since the United Nations Conference on Environment and Development, in Rio de Janeiro in 1992, sustainable development has remained a major challenge for African countries, we included. Platforms such as these that provide an opportunity for a cross-pollination of ideas amongst multidisciplinary stakeholders should therefore be encouraged.

I have sketched for you a scenario based upon the evidence that is before us in the international community. The South African government is at the forefront of the global negotiations to mitigate the effects of global warming on climate change, biodiversity loss and the threat to livelihoods. South Africa has initiated a strong negotiating position for Africa and developing countries within the context of the United Nations Framework

Convention on Climate Change and its Kyoto Protocol on measures and technology transfer to adapt to climate change.

Our policies and programme also recognise that the conservation of biodiversity goes hand-in-hand with meeting social and economic obligations as contained in the Johannesburg Plan of Implementation, Nepad and the United Nations Millennium Development Goals. One of our most recent achievements in addressing South Africa's biodiversity concerns was the publication in 2005 of the National Spatial Biodiversity Assessment. It revealed that many of South Africa's terrestrial ecosystems, main rivers and estuarine biodiversity are critically endangered.

In conclusion, let me once again quote from the introduction to the "Plains of Camdeboo." Let us remember, that the Karoo is one of the world's oldest deserts. To the casual traveller it is an arid desolation, without life and without charm. To those who know it, it is land of secret beauty and infinite variety, sometimes fierce, sometimes hostile, but exercising a fascination that makes the rest of the world seem tame." Let us not forget this and work together to make sure that the rest of the world gets to know this too. I wish you well in your deliberations at this workshop and look forward to receiving a report on the outcomes and your recommendations.

Paper 1: Prof Etienne Nel (Rhodes University), Trevor Hill (UKZN), Doreen Atkinson and Bev Taylor: “A Century of Change: Demographic and economic change in the Eastern Cape Karoo”

Globally, arid areas are associated with perceptual and economic marginalisation. Marginal areas suffer from the effects of geographic isolation, as well as macro-economic policy.

However, marginal areas can experience inversion – where an economic heartland becomes a marginal area, or vice versa. It is not a static or permanent situation. In this way, the Karoo deteriorated from an economic heartland in the 19th Century to a marginal area in the 20th Century.

The key expression of change was the decline of agriculture, and its depressing effect on rural towns. Furthermore, before 1994, the whole Karoo was situated within the old Cape Province; after 1994, the Karoo was divided into four provinces, which has prevented a coherent approach to development in the arid hinterland.

This presentation considers the overall effect of changes on the area’s population and economy. It is based on 100 years of data. This research, which focuses on the Eastern Cape Karoo, should be seen as Phase 1; subsequently, other parts of the Karoo will be studied.

Figure 1: Situation of Study Area



Source: GSU, Rhodes University, 2007.

Figure 2: Detail of the Service Centres and Farming Districts in the Study Area



Source: GSU, Rhodes University, 2007.

The Karoo is dominated by small towns. In South Africa, small towns are generally under-researched and marginalised – yet they are key to the livelihoods of about half the population of South Africa. There is an unresolved question: Are small towns parasitic and redundant, or are they key development nodes? There is a real need for a clear economic policy and appropriate support for small towns.

There are several significant trends with regards to the Karoo:

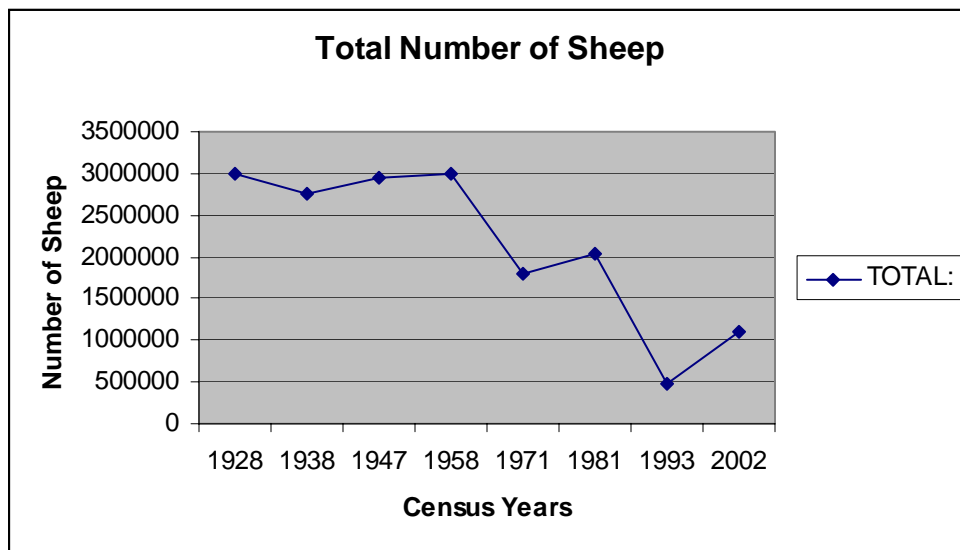
- Towns show selective growth, based on factors such as tourism, mining, telecommunications, commuting and retirement
- Larger centres (above 30 000 population) show strong growth, which tend to displace the smaller centres
- Smaller towns become primarily welfare centres
- There are changes in agriculture, thus bypassing some towns, with the result that some towns are losing their agricultural function
- Attempting Local Economic Development strategies is no key to success.

In the 1780s, the first towns in the Karoo were established, to meet rural, administrative and religious needs. For the last thirty years, the key academic theme has been the perceived decline of rural service centres, rural depopulation, and loss of skills. But it should be noted that, although the lowest order centres have weakened economically, their population has continued to grow.

During the 20th Century, prolonged overstocking of livestock farms, combined with drought, led to a deterioration of land in the Karoo. By 1963, 33% of farms were uneconomic. Up to 50% of farms were abandoned in some districts. The State tried to stabilize this situation by supporting farming improvements and instituting control mechanisms. There was a shift towards retailing and services in larger centres. The number of farms had declined by 60%, to consolidate uneconomic units into larger holdings. Despite ecological debates, the land grazed has remained constant for 84 years (5.24 million hectares).

Farming appears to be more ecologically viable. The number of sheep declined by 67% from 1928 to 2002.

Figure 4: The Number of Sheep: 1928-2002

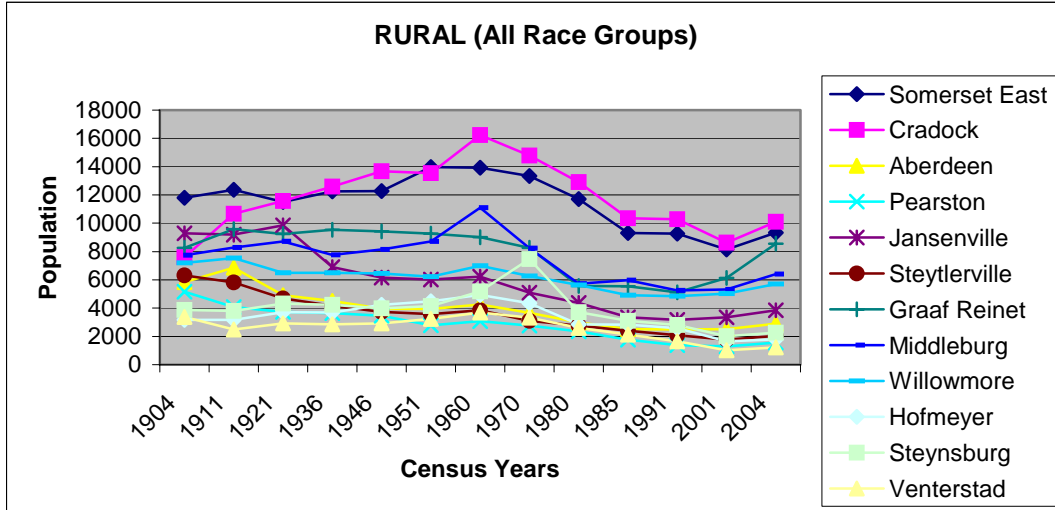


Goat numbers have been more stable, following the 1980s mohair boom. The total number of cattle in the Eastern Karoo had remained virtually constant between 1928 and 2002 (at about 60 000), despite an initial increase and a subsequent decline. The total livestock count fell by 60%. The decline of livestock is related to better farming methods, as well as about 20% of the land devoted to game farming.

As far as rural population is concerned: Between 1904 and 1960, there was a 12% increase in population in the Eastern Cape. Subsequently, between 1960 and 2004, there

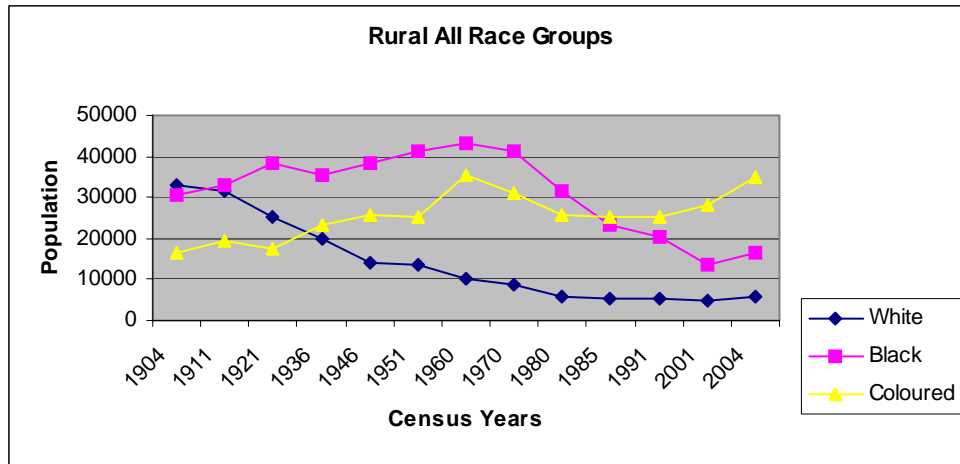
was a 37% decline, which reflected urbanisation and the consolidation of land holdings. Some districts had a larger population decline than others.

Figure 5: Rural population in the Eastern Cape Karoo



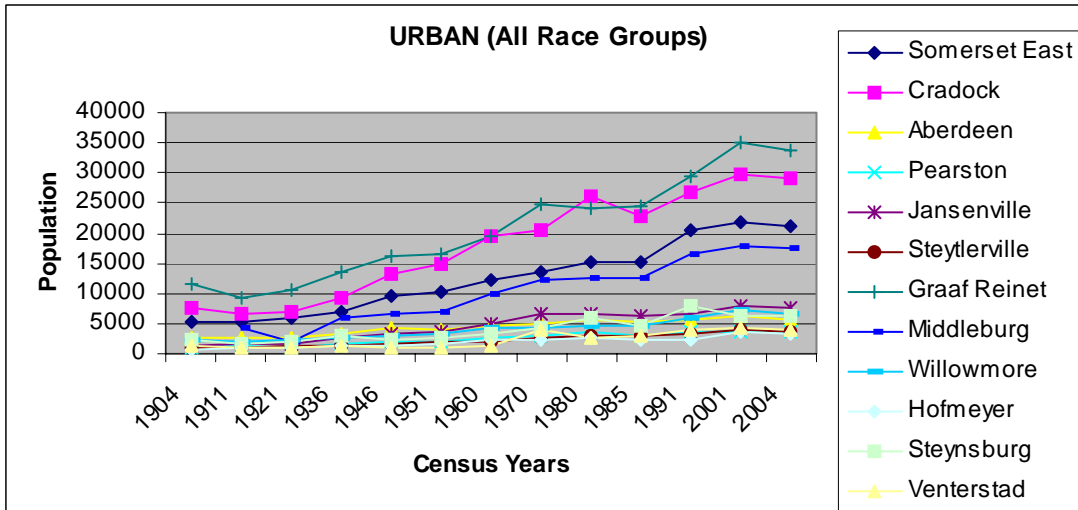
The rural depopulation can also be analysed according to race groups:

Figure 6: Changing Rural Population, by Race Groups



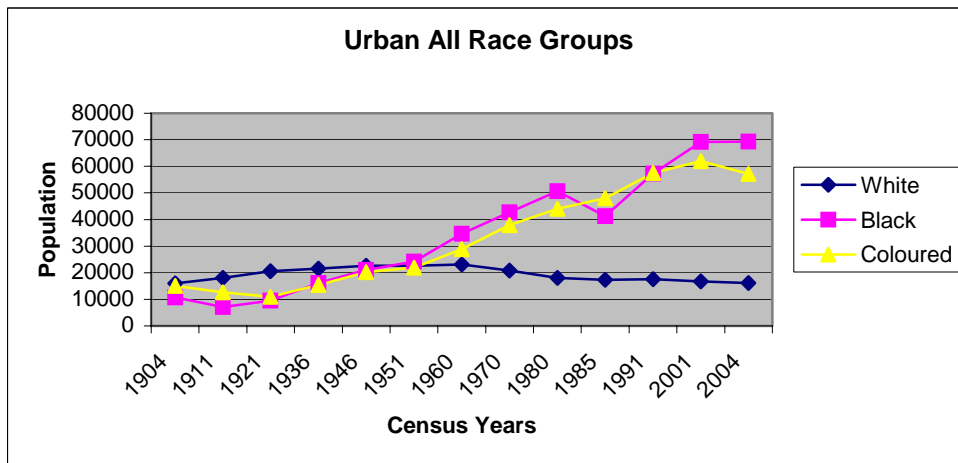
The urban population of some towns grew dramatically; in other towns, it remained relatively constant:

Figure 7: Urban Population in the Eastern Cape Karoo



The coloured population grew at a greater pace, and to higher levels, than the white or black population:

Figure 8: Rural Population, by Race Groups

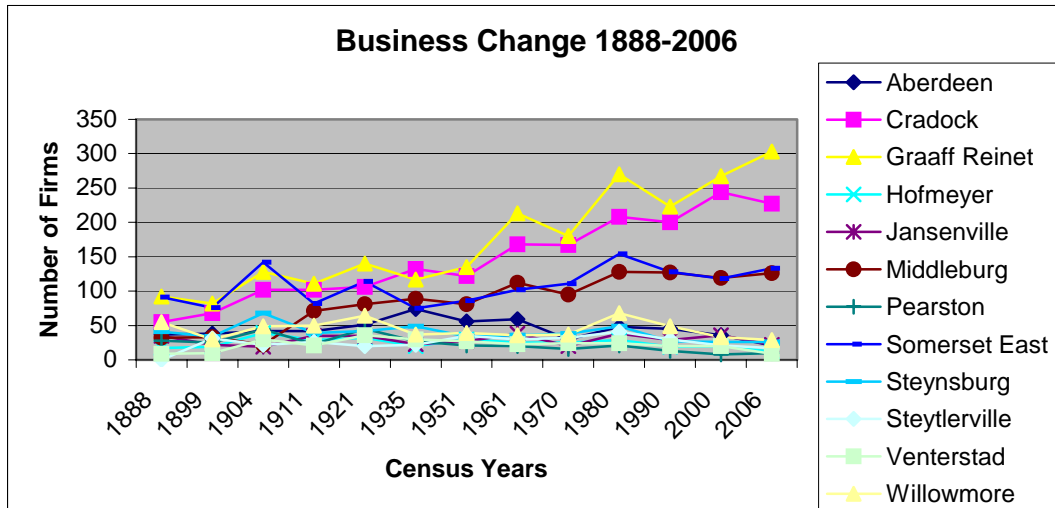


The total Karoo population has doubled over the last century, showing that claims about the depopulation of the Karoo are a myth. Rural population has declined, but urban population has grown by more than 240%.

Changes in the number of businesses can be used as a surrogate for economic growth. The four larger towns (Cradock, Graaff-Reinet, Middelburg and Somerset East, have growth significantly, by 192% (Cradock's number of businesses increased by over

300%). There was a peak in the 1920s and 1930. Thereafter, many smaller centres lost a large proportion of their businesses (Pearston lost 88%).

Figure 9: Changing Business Numbers



This paper is the first phase of research, which will be extended to the rest of the Karoo. A preliminary start has been made with a demographic overview of key Karoo districts. The general trend is the same as that in the Eastern Karoo: Population growth across the board, with more pronounced population growth in the largest centres.

Contrary to expectations, the Karoo is not losing people or economic activity. Instead, internal shifts are taking place, from a large number of farms and minor service centres, to a reduced number of farming units, a series of dominant towns, and the marginalisation of smaller centres. The smaller centres are losing key services, such as schools and banks, which exacerbate their decline.

The experience of the Karoo parallels national trends, as regards urbanisation and rural depopulation. Farms are rationalized, leading to a decline in the number of farm workers. But in contrast to the USA and Australia, our smaller centres are not losing population. Our small towns rely on state welfare, and are home to the unemployed. Rural and small town poverty is a major development challenge, especially due to the brain drain and unemployment.

It will be necessary to identify why places differ, and what support is appropriate in each case. We need to identify viable support strategies, and identify change agents and the potential of interventions, such as tourism, retirement, niche products, unique opportunities (e.g. a large telescope).

Doreen Atkinson: Differing worlds: Four provincial perspectives in the Karoo.

This research process, funded by the Open Society Foundations, enabled us to visit the four provincial capitals (Western Cape, Eastern Cape, Northern Cape and Free State). Interviews were conducted with a wide variety of government officials and NGOs. We also analysed secondary documentation, such as Integrated Development Plans, Provincial Development Strategies and annual reports.

There were numerous difficulties in the research process. Interviewees were sometimes not available; the interviews were very open-ended and sometimes difficult to compare; the financial figures provided in budgets are often not an accurate reflection of expenditure on the ground; and the data for arid areas is often included with that of non-arid areas (such as the Little Karoo and the southern Cape Coast). Consequently, the status of the report can be described as: “Systematic but impressionistic comparison of a variety of government sectors and non-state organisations, showing their interest, understanding, perceptions, activities and intentions regarding the arid areas”.

At the district level, we focused on District Municipalities which are clearly arid: Central Karoo (Western Cape), West Coast (Western Cape), Cacadu (Eastern Cape), Pixley ka Seme (Northern Cape), Namaqualand (Northern Cape), Siyanda (Northern Cape), and Xhariep (Free State). We tended to exclude the following district municipalities: Eden DM (southern Cape), Kgalagadi DM (Northern Cape), and Chris Hani DM (Eastern Cape), because they are only partially arid. A full investigation should include these District Municipalities.

Our argument is to show how different provinces understand the arid areas in very different ways. “The Karoo is in the eye of the beholder” – different provincial governments see different things! In effect, they engage in different development discourses regarding the Karoo. The provincial planning system has caused a fragmentation of perspectives regarding the arid areas. This fragmentation filters down to district and local level.

In the Western Cape, the Karoo is seen as an area of doubtful economic potential. There are many attempts to see economic potential, but it seems that they have not figured out what this potential is. The Karoo is seen as an economic backwater. The Central Karoo is a presidential node, but it is totally outweighed by the other areas in the Western Cape, particularly the coastal areas. The Karoo has significant road and railway links, as well as infrastructure, but this is not appreciated as an asset.

In the Eastern Cape, the Karoo is seen as a “developed commercial farming sector”, in contrast with “floundering subsistence agricultural sector”. There are strong linkages with Nelson Mandela Bay Metro, in terms of transport systems. (Such transport linkages are not even mentioned in the Central Karoo as an asset). The Eastern Cape Karoo has good water, sanitation and electricity infrastructure and formal housing – such factors are not even mentioned in the Western Cape Karoo as an asset. Unlike the Western Cape,

the Eastern Cape focuses on agriculture and agro-processing as a key part of its provincial strategy. But there is not much focus on Karoo – it is too privileged!

In the Northern Cape, there is a strong focus on economic sectors of interest to the Karoo: Tourism, agriculture, agro-processing, and mining. Consequently, the province wants to invest in productive infrastructure in the Karoo: Roads, telecommunications, electricity, and water. There is interest in all towns in the Karoo, including emerging growth towns, stagnating small towns, development corridors in the arid areas, as well as LED and small business development.

The Free State sees the Karoo as a deprived rural hinterland, with limited economic potential. This is ironic, because it is despite the fact that Jacobsdal and Jagersfontein have high growth rates. There is only one mention of the Xhariep district in the Free State Growth and Development Strategy.

This paper focuses on four sectors: Business Support, Tourism, Agriculture, and Transport. It will show the different strategic emphasis given by each province, in terms of infrastructure investment, community-level involvement, and differences of scale. They also have different levels of provincial resources, whether financial and institutional. A common theme is that there is a lack of a coherent focus on the “arid areas” as a whole, and development planning is very fragmented.

(1) *Economic development*

The Western Cape has a very strong set of economic development programmes. They are primarily at municipal and community level. These include:

- RED Door (Real Enterprise Development), which is a one-stop-shop support for small businesses
- Plekplan Programme, which supports Municipal Local Economic Development
- WESGRO, a development and investment attraction corporation.
- Marketing of the province – but this does not yet have a strong focus in the Karoo. It offers valuable potential support, such as market research.
- There is a strong Beneficiation Programme, which promotes, *inter alia*, fynbos products
- There are several current LED projects, such as hydroponics in Beaufort West, essential oils, the Prince Albert Pont, and the Beaufort West Tourism Gateway Project
- “Library corners” have been established in many towns, which offer literature on Small, Micro and Medium Enterprises in municipal libraries.

The Eastern Cape has done a good deal of strategic thinking, and there is some significant donor action:

- The Eastern Cape Development Corporation is interested in railway tourism, agave, and buchu. It can see potential in the Karoo.
- ECSECC (Eastern Cape Socio-Economic Consultative Council) is an economic development think-tank, based in the office of the Premier. ECSECC can see

- potential in the Karoo, in terms of rail tourism, alternative agriculture, and wool washing.
- SEDA is planning to establish an office in Graaff-Reinet.
 - The European Union's "Thina Sinako" Fund promotes Local Economic Development, which assists municipal capacity-building and business innovation
 - The German donor, GTZ, has introduced a Participatory Approach to Competitive Appraisal (PACA), to assist municipalities to identify competitive advantage.

The economic development approach in the Northern Cape is more strongly infrastructure driven. This includes a railway hub in De Aar, tourism sites (Prieska, Douglas), Upington Cargo hub, Carnarvon Telescope, and the tarring of roads in the Karoo (Britstown to Vosburg). Furthermore, an LED Forum has been established in each district.

The Free State has focused on a single flagship project: The Lake !Xhariep initiative at the Gariiep Dam. This project is a partnership with the Northern Cape and the Eastern Cape. However, it has suffered bureaucratic delays in the last three years. Other than this, there is some doubt whether the Free State Development Corporation has a significant role in the southern Free State. The strongest hope for economic development in the southern Free State is the SEDA office in Trompsburg.

Significantly, all four provinces have had Growth and Development Summits in the District Municipalities. Unfortunately, none of these Summits took into account what was happening in neighbouring districts, but this omission could be rectified in future.

(2) *Tourism*

The Western Cape still has a very limited marketing focus on the Karoo. Its main emphasis is on the coastal areas, which are marketed as international tourism destinations. The Integrated Tourism Development Framework (ITDF) is a significant document, which focuses on issues such as nature conservation, adventure and heritage – all of which have implications for the Karoo. Beaufort West is seen as a "tourism gateway" (but it is not clear – a gateway to what?), although the Karoo National Park is seen as a significant attraction. The ITDF wants to promote linkages between the city and the hinterland, but it has no clear idea on how this should be achieved. There are not many attractions in the Karoo hinterland for it to focus on. Significantly, the ITDF does suggest that there is a need to work across borders, which creates the potential for co-operation amongst provinces. It also argues that there should be a focus on large projects, which could be a useful approach in the Karoo. The Cape Town Routes Unlimited is a valuable tourism marketing organisation – but as yet, it has not got a significant Karoo focus. The Western Cape also has a valuable Integrated Tourism Support Programme, which could be extended to other provinces.

The Eastern Cape sees the Cacadu District as a significant tourism asset. It has an Eastern Cape Tourism Master Plan, but unfortunately its tourism budget is very limited, and much of its focus is on the coastal areas. But it does recognise the sheer natural diversity in Cacadu, which contains five out of the seven South African biomes, and also has strong links to Port Elizabeth. Graaff-Reinet is seen as an asset with significant cultural and natural attractions. It also has a Karoo Heartland Website, and there are several tourism routes, such as the Mohair Route, the Blue Crane Route and the Owl Route. The Eastern Cape is also a participant in the Lake !Xhariep project. One shortcoming is seen as the poor transport links, particularly poor quality roads, air links and the decline of the railways.

At present, the Eastern Cape – like the Western Cape – is reviewing its Tourism Master Plan.

The Northern Cape is aggressively marketing its arid areas. It has made a major branding effort, initially with the slogan “Follow the sun not the crowds”, and more recently with the brand “Northern Cape Real”. It has published a White Paper on Tourism Development. The arid areas in the Northern Cape include two transfrontier parks. The McGregor Museum in Kimberley provides support to outlying museums, which strengthen the tourism potential of small towns. It is also a participant in the Lake !Xhariep project. There are several tourism corridors, such as the “Walking with the Ancestors” route, which celebrates bushman art.

In the Free State, the Xhariep district is seen as a tourism backwater. It is an undeveloped hinterland, with few developed attractions. It is primarily marketed as a “through route”, and not a destination. The focus is on the northern and eastern Free State, which attracts Gauteng weekenders. Nevertheless, the southern Free State has a tourism route, the “Diamonds and Wine” route, although it is not very developed. There is virtually no effective government support for tourism in the outlying towns. Most significantly, the Free State is the driver of the Lake !Xhariep flagship project.

Like the Western Cape, the Eastern Cape, and the Northern Cape, the Free State’s new Tourism Master Plan is being finalised. However, these provinces are not aware that their counterparts are thinking along these lines.

(3) *Agriculture*

The Western Cape provides very active support to the agricultural sector. There is a strong focus on agribusiness and agro-processing. Specific projects are promoted in in towns (such as hydroponics in Beaufort West, liquorice in Dysseldorp, essential oils in the Central Karoo, and rooibos tea in the Cedarberg area). There is an interest in emergent farmers in Namaqualand and other communities. There is also an interest in new products, such as pomegranates, quinces, poppy seeds, and saffron . The Western Cape has a strong network of extension officers. They work closely with the RED Door enterprise support centres. A very useful institution is CASIDRA, which promotes rural

development projects. There is an active LandCare programme and Environmental Stewardship programme. There is also a strong focus on land reform targets, with the aim of reaching the target of transferring 30% of the land from white to black ownership by 2014.

The Eastern Cape has a strong focus on high-level agricultural planning. District-level agricultural plans have been drawn up, accompanied by spatial district-level data-bases. These have identified a vast range of new products. However, the main focus of the Department is on the eastern side of the province, where programmes such as the Massive Food Programme and biofuels are being implemented in the poorer ex-homeland areas. The lack of water in the Eastern Cape Karoo is a constraint, but there are early plans afoot to transfer Orange River water to the Sundays and Fish Rivers. Significantly, there is a strong focus on agri-tourism, which could benefit the Cacadu area. There is also an interest in agro-processing (such as wool-washing and tequila production), as well as a concern about Karoo branding. Curiously, the Department of Agriculture in the Eastern Cape regards game farming as a threat - it distorts the property market, it threatens jobs, and it leads to the decline of small towns. An interesting innovation in the Eastern Cape is that it has introduced a novel farm worker empowerment approach: This involves purchasing a farm for the farm workers from several farms, who are then assisted in their new farming enterprise by their employers.

Northern Cape has a strongly community-based approach. It pays a great deal of attention to emergent farmers, particularly in the goat farming industry. There is also a focus on municipal commonage, and an interest in new arid areas products, e.g. olives, figs, and pomegranates.

The Free State has a strong land reform focus in the south-western Free State. It is making a major attempt to reach the land reform targets of transferring 30% of the land in each district. The Free State Department of Agriculture has devised a new commonage support policy, which encourages commonage farmers to “exit” from commonage and acquire their own land.

(4) *Transport*

All four the provincial Departments of Transport face the following commonalities:

- Vast network of roads in the Karoo, with high maintenance costs
- Important national highways
- Underfunded district municipalities, with insufficient technical capacity
- Lack of transport services (e.g. buses)
- Decline of railway lines
- Poor air links.

But there is a complete lack of inter-provincial planning (e.g. maintenance of roads, strategic planning).

The provinces each have a different focus. The Western Cape focuses on smaller maintenance projects. The Eastern Cape is undertaking the tarring of the road to Klipplaat, but its main focus is on the eastern side of the province and the coastal cities. The Northern Cape has the more far-reaching projects: It is tarring the Vosburg-Britstown road, and is promoting the railway hub in De Aar. The Free State has no significant projects in the Karoo, but it is fairly good at undertaking the maintenance of roads.

Conclusion

Inter-provincial collaboration is rare. There are only three examples:

- In Agriculture: Provincial Trade and Economic Access (PROTEA): Thi involves all nine provinces, but there is a special focus on the three southern provinces (Western Cape, Eastern Cape and Northern Cape), which would have significant implications for the Karoo. This programme focuses on the technical aspects of agriculture support
- The Western Cape, Eastern Cape and Northern Cape have signed an inter-provincial Memorandum of Understanding on migration and housing. This involves policy-level collaboration and research.
- The Northern Cape, Eastern Cape and Free State are co-operating on the Lake !Xhariep project, based at the Gariep Dam, and with a strong focus on tourism.

In general, there are four different provincial discourses about the arid areas. Each province has a different focus, as regards policy and programme design. There are also different levels of provincial capacity, although this varies from sector to sector. There are very few attempts to synchronise policies, programmes or expenditures. There is poor level of branding of the Karoo, and no appreciation at all for the possibility that the Karoo is a “desert”, and that a desert may be an asset. Consequently, there is no collaborative attempt to assess or promote the economic potential of the arid areas. There is no shared focus on a single entity, whether the Karoo or Arid Areas. Hence it is as yet impossible to visualise it as an asset, or to unpack its economic potential.

In conclusion, there is a need to promote an integrated approach to development in the arid areas.

“Experience has shown that a big idea or vision can take a destination on the first steps along the road. The big idea must be creative and imaginative. It must also facilitate leverage, enable prioritization and assist the fast-tracking of projects that relate to its achievement”.

(Western Cape Integrated Tourism Development Framework, Executive Summary).

Jannie Cloete: The Drylands and the Desertification Paradigm

The shift from a science of desertification towards a science of poverty alleviation and dryland development is illustrated in the example of the shift from the Dahlem Desertification Paradigm to the Dryland Development Paradigm.

As recently as 2001 the 88th Dahlem Conference focussed on the complex interaction between anthropogenic and environmental causes and consequences of desertification. The output of the conference, the Dahlem Desertification Paradigm, was a framework for a more synthesised understanding of the various causes and consequences of desertification (Stafford-Smith & Reynolds, 2002).

In 2007 however this paradigm was recast as the Drylands Development Paradigm. This emphasised the shift towards a more positive, pro-active agenda. The focus has shifted towards the understanding of the possibilities and adaptive nature of people who inhabit drylands (Reynolds et al., 2007).

The new measure of success will no longer be the prevention of desertification but will be measured by means of achievement in four areas, as described by Mortimor (2005): Effectiveness of the management of the ecosystem, an increase in land investment, an increase in productivity and an increase in personal income or wealth.

The Drylands Development Paradigm, mentioned previously, highlights five key features of drylands that can be designated as dryland syndromes: High variability, low productivity, sparse populations, remoteness and the effect of the distant voice (Reynolds et al., 2007). These interrelated features of drylands suggest a broad range of socio-economic implications for living in an arid or semi-arid area.

As noted earlier the adoption of a livelihoods approach to the study of household activities gives insight into the adaptive strategies of residents of drylands. According to Ellis (1998) households will attempt to diversify their sources of survival to a variety of activities that share less common risks.

Drylands are by definition areas that receive very little rainfall. What little falls are often unpredictable and changing, or characterised by flash floods that allow for little permeation (Reynolds et al., 2007).

Related to the low amounts of rainfall are the very low levels of organic material present in the soil of drylands. The combination of the two factors makes drylands unsuitable for tillage except in the rare cases where local water supply and capital allow for irrigation or where native crops (like aloe or rooibos) are being exploited (Reynolds et al., 2007). The result is a dependence on pastoral activity as an agricultural strategy which can lead to overgrazing especially where unpredictable rainfall makes rangelands sensitive to exploitation.

The combination of the lower productivity brought about by the characteristics of drylands and the chronic shortage of water, means that drylands are often less likely to support large populations (Reynolds et al., 2007). A few exceptions do however exist where technological intervention and large investment has secured acceptable conditions for larger populations however these are few and far between and often have lingering questions of sustainability.

These small populations are often thinly spread over a large area, remote from each other and larger centres, and this leads to problems in servicing these areas. There are various definitions of what constitutes a remote area; remoteness being a relative term. In an Australian example, Cheers (in Turbett, 2004) for instance refers to any area in which people are deprived of services, programmes, goods, employment or markets as remote. Similar are the ideas of Leven (in Huskey 2006:149-150) who focuses on what he calls economic remoteness or an economic backlog due to the remote location of the site.

For the people on the ground remoteness leads to problems in servicing these areas. Wollett (in Asthana and Halliday, 2004) discussed the cost implications of providing services in remote rural areas. Problems include difficulties with economies of scale (more cost-efficient large centres cannot support the geographically diverse community and smaller dispersed centres are expensive), higher travel costs, unproductive time (by travelling), issues related to staffing and institutional costs relating to training and development.

As noted these settlements are often remote from more populated areas and hence from places of political power. They remain a distant voice far from those who make the decision in these areas and often unaware as to the specific needs of drylands (Reynolds et al., 2007).

The combination of these factors makes solutions that are used in less arid ineffective for application. Top-down approaches often fail as those who create the policy have little to no understanding of the specific needs of drylands. The result is ineffective government intervention in areas that are by their very nature sensitive and changing and hence lagging behind in development (Reynolds et al., 2007).

The continued study of the specific challenges and opportunities that drylands pose will become increasingly important as global climate change increases the amount of land area that can be classified as drylands and an increasing proportion of people will find themselves living in drylands.

Dr Nicky Allsopp: “Rangelands-based livelihoods in arid areas: Moving towards poverty reduction”

The Departments of Land Affairs and Agriculture focus on developing “emerging livestock farmers” on new or restitution lands, and reforming management on the commons. The Department of Agriculture has also drafted a veld and forage (range) policy for South Africa.

The rangelands of South Africa are under a continuous degradation process. However, the commons and “emerging farmers” are only vaguely referred to with respect to tenure, mentorship, fencing & water points, and support for sound management practices.

The Department of Agriculture and Land Affairs has several key programmes:

- Farmer Settlement
- Comprehensive Agricultural Support Programme (CASP), for post-settlement support of land reform beneficiaries
- AgriBEE (Broad-based black economic empowerment framework for agriculture)
- LandCare.

The concept of “land degradation” can be regarded as the “grand obsession” which has guided rangeland management policy since 1994.

Prof Tim Hoffman referred to Karoo rangeland management schemes: “I argue that current conceptual models of karoo dynamics are unsubstantiated and that insufficient empirical data, supporting the rationale of existing management programmes, exist.” According to O’Reagan and Turner (1992), “It is regrettable, that after nearly sixty years of rangeland research in southern Africa, basic questions in rangeland management remain unanswered.”

According to the “Land degradation paradigm”,

- African pastoral ecosystems are equilibrial
- Potentially stable systems are frequently destabilised by improper use
- Adherence to recommended stocking rate will return systems to a more productive state
- Animal numbers must be reduced and modern range management practices adopted.

The consequence is that animal numbers must be reduced and modern range management practices adopted. Conservative stocking rates are suggested. The Department of Agriculture makes the following recommendations:

- Underutilisation of available forage in wet years
- Can lead to selective grazing
- Overstocking in very dry years leading to overgrazing
- On the commons who destocks?

- Aimed at steady income generation

This suggests a rainfall tracking strategy:

- It is typical of most communal systems
- Total output will vary with rainfall
- Grazing pressure will vary with rainfall hence avoiding overgrazing
- It maximises long term welfare of livestock keepers
- Owners hang on to animals too long because destocking and restocking is expensive if drought is short.

Rangeland Ecology requires combinations of equilibrial, non-equilibrial and state-and-transition dynamics working at various spatial and temporal scales.

According to Rohde et al, we need to learn from past policy failures by examining the assumptions and false premises on which they are based including notions of land degradation and the tragedy of the commons and the notion that commercialisation as embodied in modernisation theory is the solution .

The conventional model includes:

- Destocking
- Modern range management
- Improved breeding
- Controlled access to land
- Improved marketing
- Commercialisation.

This model fails time and again.

The variability of condition precludes setting “one size fits all” policies at national or regional levels. We need to build flexibility into policy to allow for local varying conditions with respect to social, economic and ecological conditions. General policy recommendations on stocking rates are close to meaningless.

“The capacity to cope with many interlinked environmental, social and economic changes lie beyond “science” as is commonly defined , and enter a realm of participatory and negotiated science where citizens, leaders and organizations have to be involved in charting a viable future for their locality within a larger whole called ‘global change’”.

We need to reformulate rangeland management and policy in terms of:

- Ecological models
- Diversity of users
- And pathways out of poverty.

Social, economic and natural factors need to be brought into the same model, to determine the ways in which they affect one another. This requires a trans-disciplinary approach to development.

Prof Izak van der Merwe: Assessing the economic potential of Small Towns in arid areas: The case of the Western Cape Province

The aim of the paper is to present an appropriate typology of the Western Cape small towns, based on credible development profiles, which can be utilised as guidelines for authorities in future investment decisions. Therefore the following questions are asked:

- Which criteria / methodologies will optimally display town profiles
- Which town profiles demonstrate sufficient growth potential and which show limited chances?

Observed town profiles should lead to development and investment categories as suggested in the National Spatial Development Perspective (NSDP).

The following are key documents:

- The NSDP (2003)
- The Provincial Spatial Development Framework for the Western Cape (2005)
- The Green Paper on the Western Cape spatial Growth and Development Strategy (2006)
- The Agricultural Strategy for the Western Cape
- The E-government Strategy for the Western Cape (2001)
- The Green Paper on the Settlement Framework for the Western Cape (2003)
- The Integrated Poverty Reduction Strategy for the Western Cape (2005)
- The Micro-Economic Development Strategy for the Western Cape (2005)
- The Strategic Infrastructure Plan for the Western Cape
- The Western Cape State of the Environment Report
- The Western Cape Provincial Economic Review and Outlook (PERO 2006)
- The White Paper on Sustainable Tourism in the Western Cape (2001)
- The Urban Edge Guidelines for the Western Cape (2005).

According to the NSDP: “Non-metropolitan areas can be distinguished between a relatively small number of localities (towns) that have the economic potential to restructure and a significantly large number that are ultimately likely to decline, since they seem to possess limited resources to generate sustainable economic activity... The argument is based on the understanding that economic growth is most likely to continue where it previously occurred, and that therefore economic potential is highest in these localities... The approach of the NSDP seeks to focus the bulk of fixed investment of government on those areas with the potential for sustainable economic development. It can be shown that it is in these areas that the government’s objectives of both promoting economic growth and alleviating poverty will best be achieved. In areas of limited potential, it is recommended that, beyond a level of basic services to which all citizens are entitled, Government should concentrate primarily on social investment”.

The Development Criteria recommended by the NSDP are the following:

- **Resource potential**, gauged according to the natural resources, human resources and infrastructure of the area.

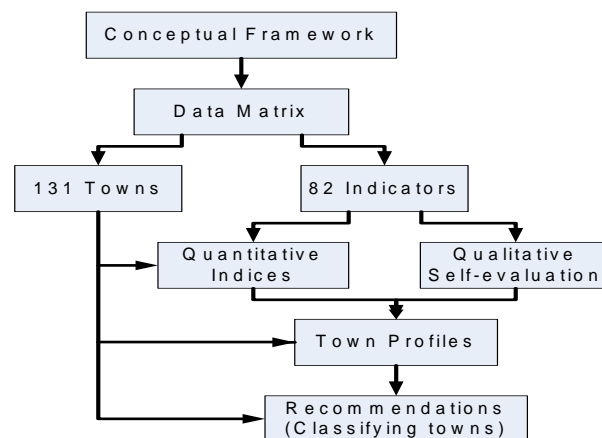
- **Economic activity**, indicated in terms of the economic categories necessary for development potential, as well as GGP.
- **Human needs**, presented in terms of the extent of poverty in the respective communities.

The results of the analysis should be categorised, where possible, into *low, medium and high* potential. From the analysis broad guidelines can be put forward

The preconditions for planning are the following:

- Respect the NSDP framework and local situation
- Integrate development potential and human needs
- Indicators should be:
 - comprehensive
 - quantitative and qualitative
 - internationally respected
 - comparable between towns
 - allow regional benchmarking
- Methodology should be:
 - sensitive to proven track record
 - Scientific and credible
 - Transparent and repeatable
 - Adaptable to unique situations (not rigid)
 - Expose / dismantle apartheid structures
- Results should:
 - Allow categorising of towns
 - Enhance policy / decision-making
 - Benefit national / provincial / regional structures and processes
 - Allow sensitive utilisation of results (a point of departure)

The research framework can be characterised as:



The indicators are grouped as follows:

- Composite resource index: Natural resources, human resources, human resource change
- Composite infrastructure index: Transport and communication, institutional services
- Composite economic index: Economic sectors, economic sector change, commercial services, market potential, regional vitality
- Human needs index.

A town such as Beaufort West scores the following:

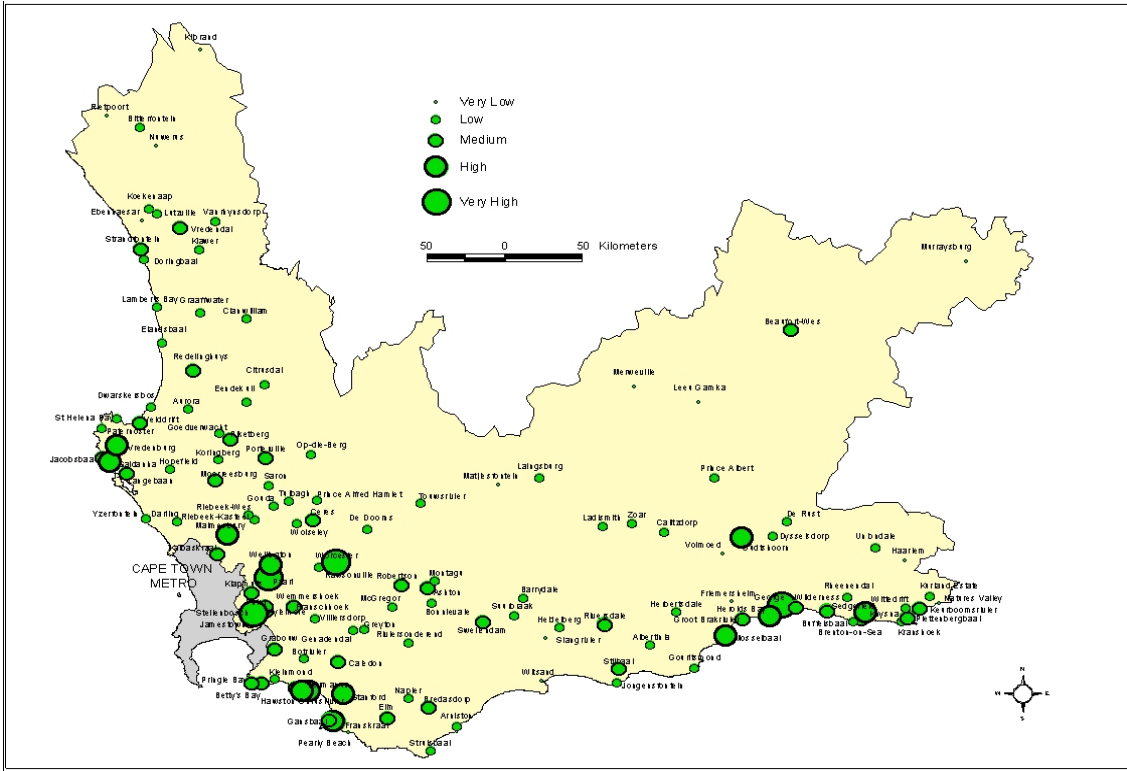
- Population size: 30 680
- Economic base: Regional centre / Agricultural services
- Place identity: Southern gateway to the Cape
- Qualitative growth potential: Very High
- Quantitative development index: Medium (Rank 29)
- Human needs index: Medium (Rank 105)
- Suggested investment strategy: Town infrastructure and Social capital.

Oudtshoorn scores as follows:

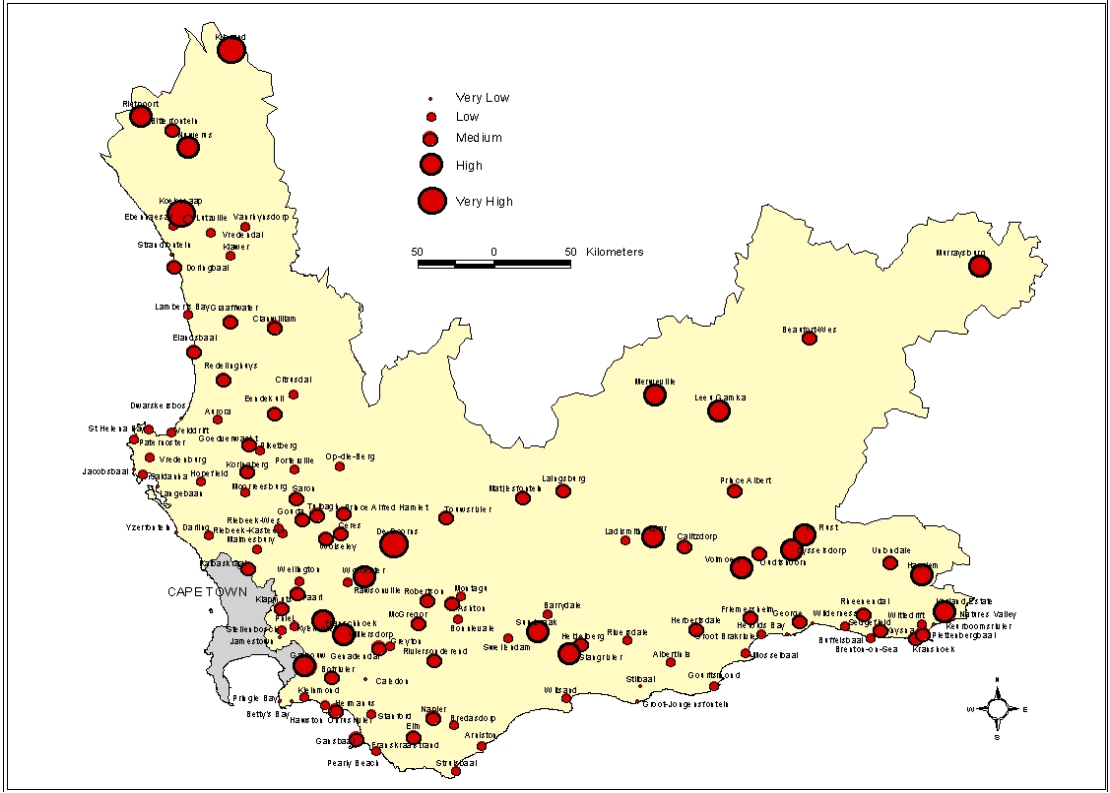
- Population size: 55 144
- Economic base: Regional centre / Agricultural services / Tourism
- Place identity: Arts among the ostriches
- Qualitative growth potential: Very High
- Quantitative development index: High (Rank 12)
- Human needs index: Medium (Rank 87)
- Suggested investment strategy: Town infrastructure and Social capital.

Springbok scores as follows:

- Population size: 10 300
- Economic base: Regional centre (Agricultural / Mining / Tourism)
- Place identity: Namaqualand's serene natural and cultural heritage
- Quantitative development index: Medium (Rank 40)
- Human needs index: Medium (Rank 74)
- Suggested investment strategy: Town infrastructure and Social capital.



Composite development index, ranging from very high to very low



Composite needs index, ranging from very high to very low

Central Karoo profile

TOWN	POPUL (2001)	ECONOMIC BASE	PLACE IDENTITY	QUALITATIVE GROWTH	QUANTITATIVE DEVELOP	HUMAN NEEDS	INVESTMENT STRATEGY
BEAUFORT WEST	30680	Regional centre/ Agricultural services	Southern gateway to the Cape	Very High	Medium (29)	Medium (105)	Town / Social
MERWEVILLE	1140	Agricultural service centre	Village surrounded by Karoo 'koppies	Very Low	Very Low (128)	High (113)	Social
LEEU-GAMKA	2131	Residential	Railway village	Very Low	Very Low (125)	High (124)	Social
PRINCE ALBERT	5220	Agricultural service centre/ Tourism	Tranquility at the foot of Swart Berg pass	Medium	Low (115)	Medium (95)	Social
LAINGSBURG	4383	Agricultural service centre	Flood survivor of the Karoo	Medium	Low (84)	Medium (96)	Social
MATJIES-FONTEIN	385	Tourism	Old fashioned Victorian charm	Very Low	Very Low (130)	Medium (92)	Social
MURRAYSBURG	4412	Agricultural service centre	Declining Karoo town	Very Low	Very Low (127)	High (128)	Social

Little Karoo profile:

TOWN	POPUL (2001)	ECONOMIC BASE	PLACE IDENTITY	QUALITATIVE GROWTH	QUANTITATIVE DEVELOP	HUMAN NEEDS	INVESTMENT STRATEGY
OUDTSHOORN	55144	Regional centre/ Agricultural services / Tourism	Arts amongst the ostriches	Very High	High (12)	Medium (87)	Town / Social
DE RUST	2804	Retirement/ Tourism	Picturesque gateway to Meiringspoort	Low	Low (102)	High (122)	Social
DYSSELSDORP	11050	Residential	Rural settlement	Very Low	Low (107)	High (117)	Social
CALITZDORP (KANNALAND)	3184	Agricultural services / Tourism	Port wine capital	Low	Low (114)	Medium (82)	Social
LADISMITH	5445	Agricultural services	Cheese and wine	Low	Low (93)	Low (42)	Minimal
ZOAR	4069	Residential	Historical mission station	Very Low	Low (113)	High (118)	Social

Namaqualand profile:

TOWN	POPUL(2001)	ECONOMIC BASE	PLACE IDENTITY	QUALITATIVE GROWTH	QUANTITATIVE DEVELOPMENT	HUMAN NEEDS	INVESTMENT STRATEGY
SPRINGBOK	10300	Regional Centre (Agriculture / Mining/ Tourism)	Namaqualand's serene natural and cultural heritage	High	Medium (40)	Medium (74)	Town / Social
VAN RHYNSDORP	5219	Agricultural services	Gateway to flowers / succulents	Low	Low (60)	Low (55)	Minimal
BITTERFONTEIN	903	Agricultural services	Namaqualand flowers	Very Low	Low (83)	Medium (86)	Social
NUWERUS	530	Agricultural services	Namaqualand flowers	Very Low	Very Low (122)	High (116)	Social

General causes for town decline are:

- Technological transformation
- Economic transformation
- Human behavioural transformation
- Management capacity
- Resource base inefficiencies
- Migration
- Apartheid structures
- Place identity
- Location.

This paper makes the following recommendations:

- The model is a cautious point of departure
- It suggests a future spatial development strategy
- It suggests a future urban and LED strategy
- It can serve as a guideline for municipalities and investors
- It provides inputs to PSDF and NSDP
- It assists in monitoring future change (GIS)
- It can be utilised in other regions (e.g. the Arid Areas).

Dr Kopano Taole: Building intellectual capacity in the arid areas

In the Northern Cape, there is the National Institute of Higher Education (NIHE) brought about by a programme of restructuring of university education. It combines as partners, the University of the Free State, University of the Western Cape, the Vaal University of Technology and UNISA.

What institutional model will be suitable? Do we need to think differently about the model of higher education? Need a regional university that is appropriate to the circumstances of the Northern Cape.

Prof Mike de Jongh: “Poverty and marginalisation in the arid areas: The case of the Great Karoo descendants of a First People”

When Chrisjan Steenbok said, “*Ons het nie ons eie reg nie, ons moet maar vat of ons moet maar gaan*” (literally: We don’t have our own rights, we must take it or we must go), he unwittingly captured the very essence of their disempowerment and marginalisation.

The “we” are the itinerant sheep-shearing *Karretjiemense* (Karretjie People, literally: donkey cart people) of the arid Great Karoo region of South Africa. Although they have, for generations, rendered an important service to the agricultural economy of the sheep-farming Karoo, they have remained at best, largely socio-economically ‘invisible’ to the local population or, at worst, strangers in their own land.

The Karretjie People trace descent from both the Khoekhoen (e.g. the Griqua or Korana) and the San (Bushmen or more specifically the |Xam of the Great Karoo), South African First People, but together with many of the contemporary Griqua, today represent a rural underclass. Their structural position, particularly their asymmetrical relationship with the wider community, was largely shaped by historical events and is generally still being kept in place, post-1994 democratic elections, *de facto* by rural agricultural economy power relations and a pervasive conditioned mindset. The itinerant Karretjie People are now not only dependent upon, but also exploited by this wider community.

The Karretjie People are widely perceived to be different and are stereotyped as being sly and shifty and as sheep-stealers and slaughterers who are often drunk. Farmers refer to them as *Karretjie-Boesmans* (Donkey cart Bushmen) and, ironically according to their own perception and that of other sections of the community throughout the region, they are a people apart.

Although the ancestors of the Karretjie People were of the earliest inhabitants of the region, they have, through a series of external interventions progressively been denied access to the resources of the area, most significantly the main resource, land. The deprivation in terms of resources has further translated into virtual lack of recourse to the infrastructure and basic services and facilities of the district not least of which the political, educational and medical.

Historical events (De Jongh 1997:91-94) over a period of some 300 years, hence a diachronic dimension, provide illuminating perspectives on these contemporary realities.

HISTORICAL CONTEXTUALISATION

When in the 1700's, the first white hunters on horseback rode into the Karoo, a process was set in motion which over generations produced a hierarchical, inequitable and rigidly

ordered sociocultural system. The white hunters were soon followed by farmers from beyond the Sneeuberg in the south, first to graze their cattle and eventually to settle. Although they found plentiful game and good farm-land, they also found the local San/!Xam and even groups of KhoiKhoen (or more correctly KhoeKhoen) who had started moving into the area from the north.

Archaeological evidence, the historical record, local folklore, DNA analysis and oral tradition not only confirm the early presence of these forebears, but also the changing nature of their interaction with the more recently arrived pioneer white farming community from the south. The first sporadic contacts in the 18th century were followed by extended periods of conflict, intermittent times of peace, increased competition for resources and eventually the powerful impact of a burgeoning agricultural economy and commercialisation in the rapidly developing towns.

The competition for resources, at least initially centred around two main issues. First, the farmers hunted the game in the hunting-grounds that the /Xam for generations had regarded as their own. When the /Xam then began slaughtering the more easily accessible domesticated stock of the farmers, they themselves became the hunted. Second, the farmers in the areas of the Griqua and Korana were in competition for the same grazing lands for their stock.

The Griqua, incidentally, have an interesting historical development of their own, particularly as far as the geographical dimension is concerned.

By the middle of the 18th century individuals and small groups of people who had been part of the intermingling of Khoisan, Europeans and many other groups started *trekking* north from what was then the early Cape. They were subjugated by some of these people, raids and robberies and epidemics all played a part, and some of these migrants, after a period of close association with the Namaqua, were to eventually form the nucleus of the Griqua/Griqua. Adam Kok I was then their recognised leader and the Griqua first settled at Piketberg, then in the Khamiesberg area and eventually at Klaarwater - the place to become known as Griquastad.

Different, and smaller groups also settled at Campbell (under Cornelius Kok I). After dissention at Griquastad Andries Waterboer became the *Kaptyn* (Chief), a group under Barends settled at Boetsap and people who became known as the Bergenaars settled in the mountains near the present-day Fauresmith. Adam Kok II and his group moved to an area between the Vaal and Riet Rivers. It was the intervention of Dr. John Philip of the London Missionary Society that resulted in the colonial authorities allowing Griquas, Bergenaars and Korana to recognise Adam Kok II as their leader and to eventually establish themselves in the district now known as Philippolis in the Free State.

Encroachment into their territory by white farmers, made worse by the fact of some Griqua being prepared to sell their farms, led to the already clear division amongst the people of Philippolis being accentuated. Erratic relations within their own ranks, with the white farmers who owned more and more land, the London Missionary Society and the

colonial authorities in Cape Town, eventually led to an epic trek by the Griqua, led by Adam Kok II from this area, across the Drakensberg to Niemandsland (Noman's Land) - later to become known as Kokstad in Griqualand East. This was in 1863 to 1864 and again in 1897 (led by Andries le Fleur). Kokstad experienced rebellions, though suppressed, this led to the establishment of a new Griqua centre at Kranshoek near Knysna under Le Fleur. Le Fleur had previously married into the Kok family and eventually came to possess the Griqua staff of office. It was here that the Griqua Independent Church was founded in 1920 with Le Fleur as President.

Members of the group who became known as the Griqua continued to reflect their mixed origins until well into the 19th century, but while many individuals observed KhoeKhoen customs and spoke Siri (Gri), a KhoeKhoen language, many were to an extent westernised in their way of life, owned horses, wagons and guns and spoke a form of Dutch or later Afrikaans. It was at Klarwater that John Campbell of the London Missionary Society persuaded them to call themselves Griquas, with reference to their KhoeKhoen (Chaguriqua) origin.

Eventually though, the lifestyles of both the /Xam and the Griqua/Korana were transformed. In the case of the /Xam for example, they changed from nomadic hunters to become so-called 'tame Bushmen' farm labourers. They retained, at least initially, their mobility, first on foot, later with the help of pack animals and eventually, within a few decades, they had adopted the donkey cart as mode of transport, constructing their carts from materials salvaged from derelict horse carriages and motor cars.

Those of the /Xam who were not hunted or had not succumbed to some foreign disease like the smallpox epidemics in the 18th and 19th century (affecting both the /Xam and the Griqua), sought refuge in alternative (there was, as was indicated above, for example a mass migration of the Griqua in the middle of the 19th century) or remote areas or in the case of small pockets of /Xam, in rock shelters. Finally though, those who survived and remained in the region, ended up squatting near towns or were drawn into the agricultural economy to become labourers on white-owned sheep farms. Like their parents and grandparents many of the contemporary Karretjie People were born on a farm and in spite of their present itinerant existence, a number of them have a history of having lived at least semi-permanently on a farm. It was on the farms that their forefathers first learned the skill of shearing. This they perfected, and when wool-farming as an enterprise expanded, the need increased for workers who were available, in numbers and in teams, at a particular point in the agricultural cycle - the shearing season. With the help of the mobility afforded by the donkey cart, the Karretjie People, as they were now known, developed a flexible and floating lifestyle in order to exploit shearing opportunities on farms spread far and wide (De Jongh & Steyn 1998:236-237; De Jongh 2002).

Seasonal sheep-shearing is a niche livelihood, and for decades if not generations, a delicate balance, though weighted on the side of the farmers, was maintained between the demand for shearing and the 'supply' of shearers on the road. But this balance was lost in the second half of the 20th century, resulting in a significant increase in the number of Karretjie People in the Great Karoo. In fact in the last few decades the growth rate of the

number of Karretjie People has outstripped the demand for their services as sheep-shearers. A number of factors seem to have played a role in this trend. One was land consolidation, with new owners needing a lesser number of workers for the larger property than the total employed on the originally separate farms. A second factor was a period of economic stagnation caused by drought and fluctuating world wool prices amongst others. More recently furthermore, game farming as started making inroads in the region resulting in the wool-bearing Merino sheep disappearing from the *veld* (De Jongh 2002).

To further exacerbate a situation where a surfeit of Karretjie shearers already means that they compete against each other for contracts, they have also in recent years had to compete against teams of unionised shearers from beyond the Great Karoo. The advent of such sheep-shearers and the increasing disinclination of farmers to allow Karretjie families to set up temporary camps on their land, have tended to erode the bonds of familiarity between these local shearers and the farmers. Previously Karretjie teams that returned to the same farms season after season were in a position to negotiate terms of employment - even though the farmers were in an overwhelmingly more advantageous bargaining position, as well as to obtain loans to tide them over in periods of difficulty. Farmers also extended assistance in times of illness, taking sick family members to the doctor or hospital in the nearest village, and in some instances and more recently, took an interest in the education of the Karretjie children. Although these relationships have not died out entirely, they have begun to wither. Even though the shearers may still be fortunate enough to be employed, their wives, children and other dependents have to be left in the corridors of land between the public roads and the boundary fences of the farmers, as the farmers have taken to fetching only the shearing team, sometimes from outspans far removed from the shearing activity (De Jongh 2002).

Given such developments and in spite of the fact that the Karretjie People regard the peripatetic philosophy and lifestyle as core values, a significant number of them sooner or later reach a stage when they contemplate or are forced to consider a different, usually sedentary, way of life. The rational decision-making which results in a radical change from an itinerant to a sedentary lifestyle only takes place however, in the context of the limited options which their asymmetrical structural position within the wider community imposes upon them. Illiterate, and possessing a limited range of skills, the Karretjie People are ill-equipped to take advantage of opportunities even if the regional system had allowed them access to a wider purview of alternatives. The reality is that the incidence of a more drastic and irrevocable decision to forsake the itinerant lifestyle completely in order to settle in town, has recently become increasingly apparent (De Jongh 2002).

To the residents of the area the Karretjie People are invisible in the sense of being a familiar and conventional sight, much like the natural environment, and in the sense that they are also total strangers, even though they may be tolerated as part of the human environment. This is because of lack of real interest in them as people together with a lack of social intercourse and interpersonal relations, other than categorical relations with them in spite of their still being, to many farmers, indispensable shearers (De Jongh 1997:93 and 2004:175).

As is the case for people in the broader context of the Karoo and other rural areas, poverty for the Karretjie People is experienced by all the members of the family but some individuals bear more of the brunt of it than others. Privation, particularly at certain times, is especially experienced by women, and children may be neglected during times when either or both parents are absent or exert themselves to gain unpredictable access to resources.

Today there are still Karretjie families roaming the Karoo. The donkey carts carrying these families and all their worldly possessions can either be seen criss-crossing the vast plains or be found at a temporary camp on or close to a farmer's land where they are shearing or doing other sporadic work. Their overnight shelters are also often found in the *gang* (corridor) next to the road or at an outspan (a vacant, >neutral= patch of land not privately owned) which serves as a >holding= area between assignments.

Usually shearing in teams of six to ten men from the same outspan, the core of which comprises of kin, the shearers might be working on a particular farm from one to several weeks. Both the size of the team and the duration of the assignment depend on the size of the flock the farmer wants shorn. The shearers are paid from R1.50c to R2,50 (US\$1 = ± R6.60 GBP£1 = R14.00) per sheep shorn, the amount depending on the convention in the district, but more particularly on the farmer and is not negotiable. The team also receives one sheep to slaughter for every 1000 shorn. For the rest shearers have to provide their own food as well as sheep-shears.

On a good day when the sheep are readily available in the shearing pen and there are no unexpected interruptions like unseasonal rain, the shearers each manage to shear on average 25 to 30 sheep per day, thus theoretically earning R180.00 to R375.00 per week. Even with the possible additional income of some of the women and even children who may be employed on a temporary basis in the shearing shed or in and around the farmhouse (at anything from R2.00 to R10.00 per day), a shearer's family, after deductions for the shears and food and other purchases, often walks away with a net payment of only R50.00 to R100.00. The Karretjie People are hardly assured of shearing assignments for half of the months of the year which puts the monthly average income for a *karretjie* unit at never more than around R300.00. This translates to an adult equivalent of less than R100.00 per month which is put into perspective by the figure of R178.00 per month which the Living Standards Development Survey identified some years ago as the adult equivalent cut-off expenditure for the *poorest of all* in South Africa (De Jongh 2002; May et.al 1995:7).

The Karretjie People are in every sense of the word poor and poverty is of course a matter of sufficiency, access and security (May et.al 1995:5), where sufficiency is having, or not having enough food, income and essential services, as well as non-material needs such as safety and opportunities. Access entails actually being able or unable to acquire sufficient food, income and services, and security is having or not having secure and sustainable access to essential commodities and services. Lack of security accentuates the vulnerability of the poor. In considering poverty in this context it is accepted that it

entails much more than simply a lack of money and also a lack of secure and sustainable access to facilities, services and resources, it is more importantly, a lack of opportunities to exercise choices. The Karretjie People and their underclass status as rural foragers, are thus a good example of the consequences of denial of the most basic of resources, land, or space to exercise choices, for self-help, for devising strategies towards this end - beyond the domain controlled by capital or different levels of government (De Jongh 2002).

CONTEMPORARY REALITIES

Ingenious as the adaptive strategies of the Karretjie People may be, their initiatives can only be properly interpreted as responses to a given set of circumstances and as actions taking place within parameters over which they have no control. The kind of space as resource that increasingly more South Africans have is what they are lacking, because historical events dispossessed them of their land but also because they were eventually classified 'coloured' i.e. something between the whites and the blacks and not indigenous to South Africa. Those individuals who are in possession of identity documents were, according to their own indignant insistence, incorrectly classified as coloured. Although the oral tradition of the Karretjie People is relatively 'shallow' and, with the exception of a few individuals, there is only a vague awareness of being descendants of the earliest inhabitants of the region, they clearly distinguish themselves from other people in the area (De Jongh, 2002).

Despite the aforementioned, the Karretjie People and their strategies for exploiting resources, cannot and are not perceived as if in isolation or divorced from the larger community or Karoo sociocultural system of which they are a part, in fact of which they are a product. By virtue of a system which has for generations discriminated against them and disempowered them, they are now dependent on the very sedentary community and its politico-economic system which created and now perpetuates their itinerant lifestyle (De Jongh & Steyn 1997:24).

South Africa's first democratic election on 27th April 1994 has not changed this and neither has a new constitution nor changes in legislation. The reality is that power and property in districts millions of hectares in extent, are in the hands of land owners on the one hand, and in the hands of the power-brokers in the towns on the other. A collective conditioned mind-set, as was mentioned earlier, which has developed and been kept in place over generations, ensures the tacit acceptance of the *status quo*; a *status quo* of inequity and intolerance and a monopoly of resources which transcends statutory transformations (De Jongh & Steyn 1997:24-25).

Much of this also applies to the Griqua, i.e. those who identify as Griqua, of the Great Karoo, but their case is also different in many ways. They are also found widely dispersed throughout the Karoo, in virtually every town, though more particularly in centres like Griquatown e.g. in a fairly distant town like Colesberg the Griqua community

is well organised, active and have erected a church of their own and which is a focus of their endeavours.

Unlike the Karretjie People though, the Griqua are organised nationally, have a leadership structure and, importantly, have received official recognition. Still, Griqua ethnic identity comprises a diverse category of people. During the apartheid era, Griqua was designated a subcategory of the Coloured population and, as a result, many Griqua people were denied full ethnic recognition. Today, “Jan Klaarwater’s” life, and who lives in a ‘location’ in Griquatown, has encapsulated the meaning of Griqua identity in the Karoo – his poverty and disability pension are part of broader experiences of dispossession and as a member of the working/labourer class – and demonstrates how structural conditions such as poverty and economic marginalisation are interrelated with ethnic identity or distinctiveness or minority community (or group)(cf Waldman 2006:94).

No political party or any other organisation, whether government or non-government, has effectively taken up the cause of the Karretjie People. Squatters on the fringes of urban centres, those who have suffered because of forced removals, communities with historical land claims and the dispossessed, disadvantaged and disempowered in general feature prominently on the agendas of various organisations and different levels of government, but almost universally to the exclusion of the Karretjie People. Census-takers have been generally oblivious of them, yet they are lumped into the category ‘coloured’ and are hence assumed, in the wider South African context, to be ‘not so poor’. They have no access to land at all, are still almost totally illiterate, generate of the lowest household incomes in the land and have hardly been able to avail themselves of the promise of access to social, medical and educational services nor the mechanisms for general empowerment (De Jongh 2002).

ENDEAVOURS TOWARD MITIGATION

With a view to progressive empowerment and upliftment, I was involved in a comprehensive education programme which we initiated a few years ago in an endeavour to develop a sustainable process for the provision of holistic education and development for the Karretjie People. By bringing basic skills to, and developing a positive value system within this community, a significant contribution was envisaged to enable adults to compete socio-economically in a more equitable manner and to improve their quality of life. The programme included a literacy curriculum, practical and skills training as well as guidelines and procedures for health-care, childcare, parental responsibility and hygiene. Portable educational facilities were taken to the Karretjie People at the various outspans but given the mobility and fluidity patterns of individuals and *karretjie* units, especially the absence of the adult males as shearers, it soon became clear that careful planning and constant innovation and adaptation of the instructional process was essential.

Given the itinerancy of the community, the initiatives and processes of the outreach programme had a dual focus. On the one hand activities were concentrated at those outspans frequented on a regular basis by the largest number of Karretjie families. On the other hand, the more suitable facilities of a centrally located farm school were used in order to accommodate larger and combined groups for the purpose of discussions, interaction and tuition. In the case of the outspans as was mentioned, collapsible and portable basic equipment, in addition to the usual teaching aids, were taken to the people and in the case of the farm school, the participants were ferried to the central facility.

When the programme had run its course, a formal evaluation was done, and a number of practical and ethical issues emerged, many of which should serve as guidelines for future endeavours. Of equal importance, the circumstances of the Karretjie People have been subjected to continual change – particularly insofar as the variables and external factors which impinge upon them.

Clearly, a development initiative such as outlined here implies a massive ethical responsibility. Education of whatever kind would, for example, result in an irreversible, even drastic, change in lifestyle for the Karretjie People. Adults for instance, are generally positively inclined as regards education for their children, but already the advent of such tuition for some of the children had resulted in friction between the newly-created 'different worlds' of the older and younger generation.

Cognisance must, of course, be taken of the socio-political and socio-economic environment in which such endeavours are undertaken. For one, unemployment in the region concerned, and the country at large, is such that the acquisition of additional skills will result in expectations which, if unfulfilled, can only lead to yet more disappointment and frustration. The conditioned mind set of the wider community, particularly potential employers, is furthermore such that they find it difficult to contemplate accommodating the 'new' Karretjie People in 'their' world. In fact, some members of the farming community perceive these initiatives as inconceivable because 'those Bushmen are uneducable' or if you do give them some education you will 'spoil' them and the net result will be that the farmers will 'lose' their shearers. An itinerant community such as the Karretjie People occupies a particularly sensitive and vulnerable socio-economic niche and by virtue of their position of almost complete dependency run the risk of losing what little they have.

In the case under consideration here I am concerned with formal policy stemming from the public (government, administration) sector because whole communities are affected or not affected, and programmes or activities deliberately designed to bring about change are at issue. Given different and often conflicting intentions of individuals, stakeholders and other interest groups, the policy domain is thus a contested one. The outcome of such interactions is the reality of socio-cultural contexts that people find themselves in. The effects of globalisation have complicated these interactions; communication and transportation have become more rapid, efficient and immediate. People are no longer sheltered in a community context, many more variables play into their lives. Generally people have become more aware that bureaucratic and other decisions can drastically

affect their lives and their destiny – except the Karretjie People. They have been unaware, and have certainly not experienced the benefits, of any decisions or policies designed to address their particular circumstances. They have never been sheltered in community context and are now even more vulnerable than before. Exploited or ignored at the local level, the variables, interactions, intentions and even contestations at the higher levels have washed over or past them as if they do not even exist.

CONCLUSION

Harsh and inhospitable as the Karoo may seem, every day the setting sun transforms the harshness of the region into the softer hues of early evening. This seems to further accentuate the ostensible empty quietness of the vast plains and rugged hills of a region symbolised by its gentle and genteel pulse of pastoral life. Often however, this is but a veneer which disguises the reality of hardship of large numbers of the ‘invisible’ people who eke out an existence in the Karoo.

Opportunistically ‘discovered’ as citizens of the country by the main political parties in the run-up to the 1994 election, they have become increasingly sensitised to the realities of disempowerment and political manoeuvring. They have however, not yet asserted themselves. They are aware of their KhoeKhoen and San roots and in searching for a way of describing themselves consonant with their station, they may eventually and instinctively tend to represent themselves as the indigenous inhabitants of the area. Currently however, their self-perception is still ill-defined and their autochthonous status not explicitly articulated. One woman captured the general mood when, tending the cooking fire at her roadside camp, she remarked ‘*Ons is te arm om bruin mense te wees. Ons is die geel mense*’ (We are too poor to be brown [coloured] people. We are the yellow [San] people).

The self-identification as yellow or San is an interesting development. One can point to the absence of any direct continuity of historical experience between the precolonial and the modern forms of foraging. One can also point to the fact that the Karretjie People and the Griqua for that matter, are not the only people in the region who could claim descent from the KhoeKhoen and the San, as well as to the fact that they, with few exceptions, can speak no more of the aboriginal vernaculars than many others in the area - and then mainly in the form of names for indigenous flora and fauna. But these kinds of names have a particular resonance for people who find themselves effectively strangers in the land, confined to the road verges, debarred from private property, subject to insult and humiliation, and forced to trek in search of a meagre sustenance. By means such as these, and by maintaining their relative, or at least symbolic, kind of independence and self-sufficiency they signal not merely that they are strangers in the land, but also their understanding that they are strangers in what should be their *own* land.

At present this perception is fractured and fragmented. Most Karretjie People are still scattered across a vast area, moving in small, family groups. There is as yet little opportunity for the common perception, and few individuals articulate enough, to lead to

concerted political action towards shared goals. Their cause is also not enhanced by expedient outsiders who are suddenly sprouting everywhere, claiming to speak on their behalf.

The Karretjie example suggests that only through case- and context-specific data which stem from participatory research, can the required sensitivity and understanding of problems of rural poverty and marginalisation be developed. Sound macro policies can only be designed by development organisations and different sectors and levels of government if such recent and 'dense data' of the pockets of 'invisible people' such as have been depicted here, are utilised in order to ensure that those who initiate programmes are aware of not only the extent and nature of the problem, but also who the people really are, exactly where and how they live.

Mark Ingle: Arid Areas Products, Markets, Services and Technologies

This is not an economic analysis or an exhaustive survey with universal prescriptions. The focus is on a range of particulars and potentials and not industries as such (with one exception, the uranium mining industry).

There are four main categories of activity in the arid areas: Agriculture; tourism; manufacture, arts, and crafts; and mining. It will also reflect on the intangible assets of the arid areas.

Branding

Labels such as “Karoo”, “Kalahari”, “Namaqualand”, “Camdeboo”, “Hantam”, “Gariep”, and “Richtersveld” are each worth billions of rand. (In the past, South Africa has made some very bad errors of judgement as regards the branding of ‘place’).

For the tourist/consumer, these names resonate with a distinctively African mystique and *cachet* (where *cachet* refers to a distinguishing mark; internal evidence of authenticity; and prestige). There is anecdotal evidence that some of these brands are being pirated (e.g. ‘Karoo lamb’ coming from Mpumalanga, ‘Karoo *beskuit*’ from Cape Town). There is a need for regional co-operation to safeguard these brands from illegitimate use.

Turning liabilities into assets

In terms of the Sustainable Livelihoods Approach, we should focus on that which we have, as opposed to that which we lack. Some parts of the arid areas have maximised their assets. For example, Sutherland’s position on the SABC weather map has been an inspired public relations move. The Square Kilometre Array (SKA) near Carnarvon and Williston is listening out for the Big Bang, and this depends on there being no radio interference in the Karoo. The Karoo has an interesting quality of ‘nothingness’ or infinite plenitude. The sheer emptiness leads to the attraction of a lack of surveillance, where people can escape the omnipresent gaze of ‘other people’.

The Karoo also has advantages of centrality, such as De Aar.

But there is a danger that insensitive, unco-ordinated ‘development’ kills off the goose that lays the golden eggs. There is a perverse charm of rustic ‘backwardness’, and development may destroy this.

The Creative Class

Richard Florida is an American Professor of Regional Economic Development, also active at UCT. He asks the question: What makes cities/towns ‘tick’? His answer focuses on the 3Ts - Technology, Talent, Tolerance (set of indicators). He also found that

tolerance is a key indicator, and the best predictor for dynamic/creative economic environment. Evidence for this is revealed time and again in ‘turnaround’ situations in SA small towns.

Is there a ‘creative class’ that could be galvanised to strengthen the profile of the Karoo? Evidence from the newsletter, *Rose’s Round-up*, may suggest that this is indeed the case. The subscriber list of 2000 people must represent some kind of social capital, particularly intellectual capital..

The question is what is the ‘content’ (the profile) of this capital? What is its potential as a catalyst for beneficial change in the Karoo? And how best could it be mobilised? How could this latent capital be leveraged?

Agriculture

The main industry is livestock, including sheep (includes products such as wool, mutton, and even lip-ice!), Angora goats (mohair), and ostrich (leather, feathers, meat). There are sophisticated marketing and co-operative organisations (e.g. Merino Konsortium; Klein Karoo Groep). They have world-class expertise.

There is reputedly a massive biltong industry (possibly up to R6-billion p.a), as well as fruit (Klein Karoo), wine (Oranjerivier is the biggest co-operative in the southern hemisphere).

The importance of agriculture remains undisputed. South Africa is threatened with declining food production aggravated by climate change and steadily rising oil prices.

“New generation products” are:

- Agave (Tequila distillery in Graaff-Reinet)
- Hoodia (Kalahari - appetite suppressant)
- Essential Oils (Lavender, rosemary, mint, rose geranium etc.)
- Buchu (ECDC study in Camdeboo)
- Devil’s Claw
- Game farming (kudu products, hunting)
- Bush tea
- Olives
- Liquorice.

Tourism

Tourism in the Karoo is increasing in prominence. This conference would have been unthinkable for Sutherland 12 years ago. There is great ‘Blue Sky’ potential, but we must focus on holistic synergies rather than fragmented approaches. The Karoo offers the following:

- Iconic draw-cards, e.g. Owl House, Tiger Reserves, SALT (stars), SKA
- Cross-boundary steam train routes
- The Orange River is the best kept secret
- Fossils, such as the Wellwood fossil collection
- Baviaanskloof mega-reserve is set for take-off
- The Richmond 'Booktown' venture is to be launched on Heritage Day 2007 (This illustrates the "Creative Class" in action!).

Arts and crafts

A good example of Karoo creativity is Carlos, an artist living in Aberdeen in the Eastern Cape Karoo. Carlos used to work in Johannesburg, and quit the city for Aberdeen in 1994. He developed a decoupage technique for ostrich eggs. He now has seven fulltime staff and many suppliers. He exports to Belgium, Canada, Dubai, Czechoslovakia, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Switzerland, UK, and the USA. His customers include the Vatican, the EU ambassador to South Africa, Pavarotti, top hotels and department stores. His ostrich eggs are priced at +/- US\$ 120 each.

Uranium in Beaufort West

The uranium price has increased five-fold between 2003 and 2007. Australia is the world's biggest producer. SA intends to enrich its own uranium, and will build five reactors by 2030. It is the world's most strategic mineral (even more so with climate change). It uses huge quantities of water, and major conflicts are likely. It will have big impacts on environment, tourism, transport, local economies, and social ills, and will require holistic management.

Lochner Marais: Desert Knowledge Australia and ARIDNet

DKA is a national cross-border organisation based in Alice Springs (the middle of Australia). It was initiated during the late 1990s, and instituted in terms of an Act of Parliament. It has an independent Board.

The main reasons for its establishment were:

- Business, commerce and social diversity differ from that found in an around metropolitan areas.
- Towns and settlements in inland Australia are generally small in size, widely scattered and isolated from major cities.
- Cross border links were required
- Improve knowledge but also learn from indigenous people.

Its Vision: Building networks and partnerships across borders and in desert Australia for innovating an economically and socially sustainable future.

What are they doing?

- Business networking – contacts, access markets, advance technology, mentoring (Link with CSIRO)
- Assisted more than 320 enterprises in this manner –winning major national contracts, sharing research, collaborative marketing
- Technology networks to make communication easier
- Marketing and planning tourism in the “Outback” – Central Australia \$400 million p.a. – population 40 000
- Linking with the indigenous people and their knowledge
- Desert Peoples Centre – education etc
- Research link: Desert Knowledge CRC (a partnership approach).

Initiatives include:

- Land conditions and the link with the economy
- Assisting desert farmers – information, productivity
- Technology and water
- Community development
- Social impact assessments
- Reviewing service delivery in the desert
- Research
- Grant writing workshops.

The research component is aimed at:

- Providing sustainable livelihoods for desert people that are based on natural resource and service enterprise opportunities that are environmentally and socially appropriate
- Encouraging sustainable remote desert settlements that support the presence of desert people, particularly remote Aboriginal communities, as a result of improved and efficient governance and access to services.
- Fostering thriving desert regional economies that are based on desert competitive advantages, bringing together Aboriginal and non-Aboriginal communities, government and industry
- Applying social science insights into governance, human capacity and the design of appropriate institutions to all these outcomes.

Partners include:

- Central Land Council
- Charles Darwin University
- Commonwealth Government (OIPC)
- CSIRO
- Curtin University of Technology
- Desert Peoples Centre
- Northern Territory Government
- Western Australian Government.

What type of research?

- Commercialisation of desert products
- Small business
- Social issues
- Education
- Industry

Desert Knowledge Australia brings a unique approach:

- It functions across borders (bring different federal states together)
- It is well institutionalised
- It bridges social, economic, physical sciences and technology
- Research (knowledge) is pivotal
- It has a desert knowledge precinct and conference centre in Alice Springs.

ARIDnet is research coordination network.

- Website: <http://www.biology.duke.edu/aridnet/>
- Goal: to provide leadership for developing and testing a new synthetic paradigm for desertification.
- This paradigm, which we call the Dahlem Desertification Paradigm, is based on the simultaneous roles of the

- meteorological factors
- ecological dimensions of desertification (the *biophysical* factors
- the human dimensions of desertification (the *socio-economic* factors).

The reasons for ARIDNet are the following:

- Arguments surrounding the topic of desertification create confusion in policy and management programs intended to help many of the world's poorest people.
- Hence, there is an urgent need for new, interdisciplinary approaches for addressing this global problem.
- *ARIDnet* will provide the leadership to support on-going international discussions and strengthen recruitment of researchers, including undergraduate students, to study the principles, criteria, and policies related to global desertification, especially as outlined under the UN Convention to combat desertification.

Are DKA and ARIDNet an example for South Africa?