

# Marginalisation and demographic change in the semi-arid Karoo, South Africa

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## Abstract

Semi-arid areas are often considered to be environmentally and economically marginal, a situation which has been exacerbated by economic change, shifts in agricultural production and land use, and changing state policy. These themes are explored with reference to a semi-arid landscape, namely the Karoo, which covers some 40% of the geographic space of South Africa and is used primarily for extensive livestock farming. Despite long-term decline in agricultural output, the traditional mainstay of the region, and weakening small town economies, the Karoo's population and the economies of its largest service centres are growing. There are, real socio-economic needs and development backlogs, and the situation has been exacerbated by recent political marginalisation. In this study, the small towns of the region are focal points of investigation and provide a lens to investigate the changing demographic and economic dynamics of the Karoo. Most of the region's population lives in these centres which are service, collection, and distribution points for what traditionally has been an agriculture-based regional economy. This paper explores the concept of marginalisation with specific reference to historical, economic, and demographic change.

## 1. Introduction

Marginalisation is manifest in a wide variety of forms, with one of the more obvious being where whole regions portray characteristics that, in absolute or relative terms, cause them to be regarded as marginal, relative to the perceived mainstream. The concept of marginality is based on diverse actual and perceived differences—economic, environmental, social, and political—which suggest that a region is different and in some way weaker or even inferior to surrounding regions (Leimgruber, 2004). Geographic marginality is most evident in the geometric and environmental uniqueness of the extensive arid and semi-arid areas of the world, such as the South American pampas, the Australian Outback, and the South African Karoo. It is, however, important to note that a region can, in relative terms, undergo a process of inversion, from being a central to a peripheral region and vice versa (Reynaud, 1981 in Leimgruber, 2007). Just such a process has taken place in South Africa's Karoo, a vast, semi-arid interior plateau covering 4,00,000 km<sup>2</sup>, which was once the economic heartland of the country by virtue of extensive rangeland agriculture, which, in the 19th

century dominated the then rural-based economy of the country. However, by the 20th century, with the development of more productive farm land elsewhere in South Africa, industrialisation, and a series of perceived economic and ecological crises, the Karoo was displaced from its former dominant economic role. In parallel, and to some extent possibly as a consequence of its increased marginalisation and distance from the new economic hubs of the country, the Karoo came to be perceived as being a dry wasteland of little value, in which farming practices were often the direct or indirect cause of environmental degradation. Declining investment and agricultural output have had a direct impact on the viability and status of the rural service centres of the region, which originally had developed to meet the needs of agriculture-based communities. Such centres were not only directly influenced by the changing fortunes of the farming economy, but also became the receiving areas for displaced farm workers and their families.

This paper first provides a context for the study which is based on marginalisation literature, before proceeding to detail the situation and site of the Karoo, with a particular focus on the service centres which developed to meet the needs of the emerging rural economy. After briefly reviewing the situation in the 1970s, when economic decline of the area occasioned significant academic interest, the paper then examines key trends revealed by economic and demographic data to establish if the area is experiencing economic marginalisation and decline, and associated population loss. The authors argue that the notion of marginalisation is, to some extent, one of human interpretation occurring within situation-specific social, political, and economic constructs and that it is perceptions as much as real economic and population shifts which create the idea of a region being in decline or marginal.

A case study approach has been adopted whereby a sub-region of the Karoo, as opposed to the entire spatial entity, has been selected. The sub-region (see Fig. 1) was selected based on the availability of comparable and continuous census data records over an extended time period. Identified trends in the study area, based on nearly 100 years of continuous records, illustrate the three core themes of the study, namely: shifts in agricultural production, small town and rural population change, and evolving small town economies. The authors extracted agricultural data from the government agricultural census published from 1928 to 2002. Population data were obtained from the national census which was undertaken at regular intervals from 1904 and this data were supplemented with recent extrapolated data produced by the firm Global Insight (2004). Finally, business data was derived from a survey of business directories from 1888 to 2006 (Braby's, 1970; Bureau of Census and Statistics, 1962; Cape Times, 1935; [Central Statistical Services, 1981] and [Central Statistical Services, 1993]; Department of Statistics, 1972; [RSA, 1976], [RSA, 1985], [RSA, 1986] and [RSA, 1992]; Union of South Africa, 1940). The study area is bounded by the current political boundary of the Eastern Cape Province and, for purposes of this study; the area is referred to as the 'Eastern Cape Karoo' (see Fig. 2).

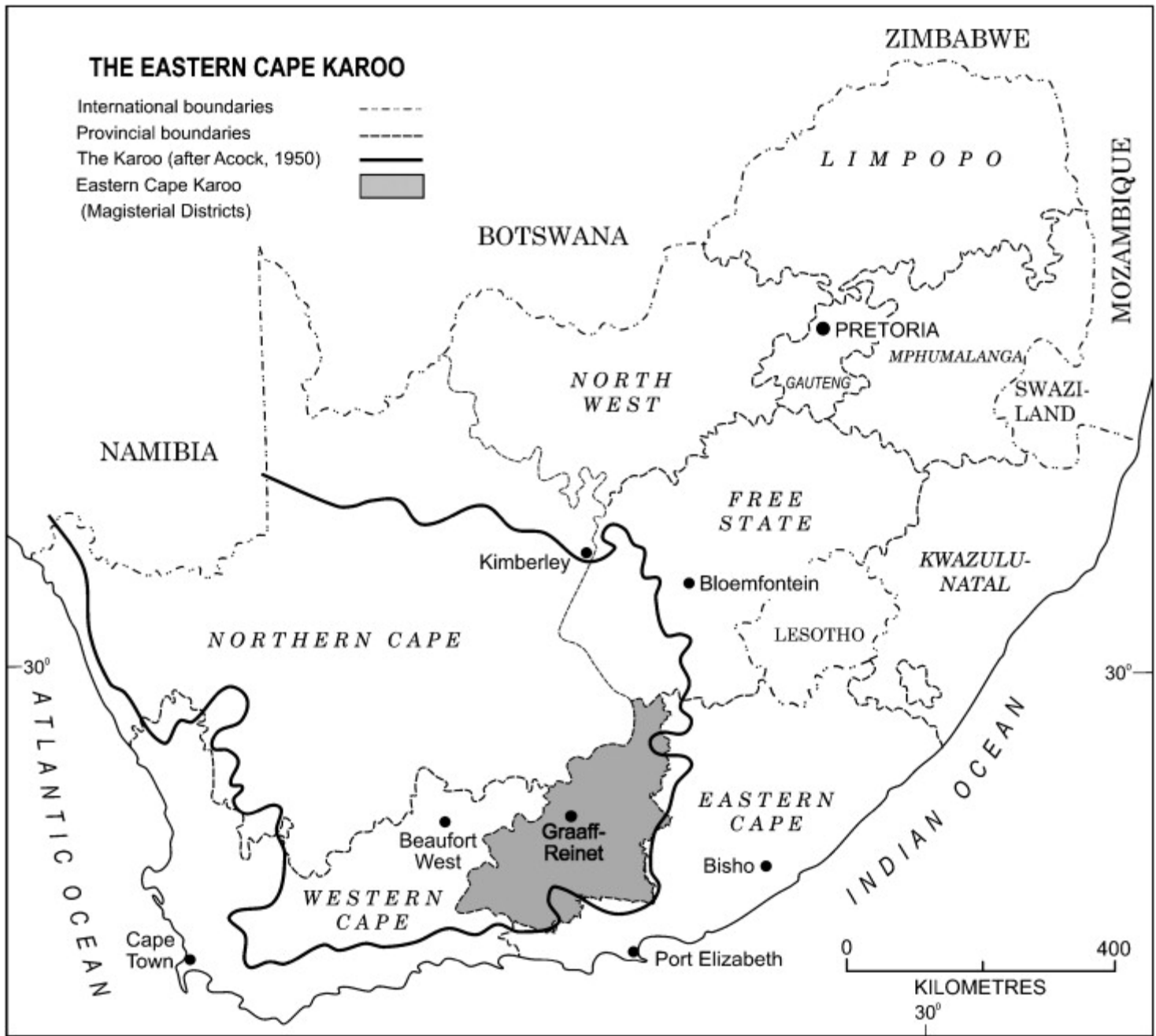


Fig. 1. Situation of study area. *Source:* GSU, Rhodes University, 2007.

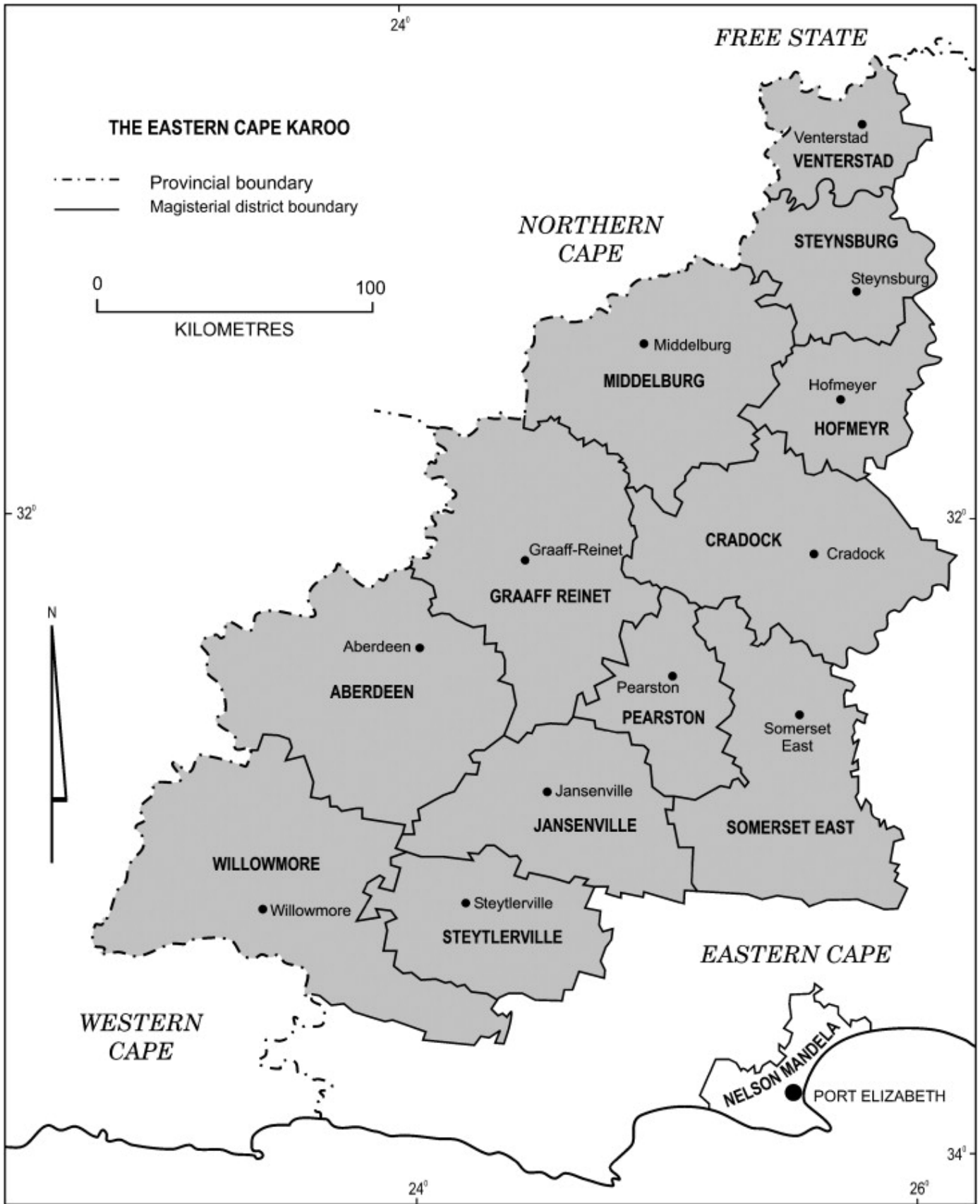


Fig. 2. Detail of the service centres and farming districts in the study area. *Source:* GSU, Rhodes University, 2007.

## 2. Small towns in semi-arid landscapes

Settlement, in the sense of the establishment of a network of small urban centres and commercial farms in South Africa's Karoo, was largely a colonial phenomenon, mirroring the experience of other settler colonies such as in Australia and in North America, where the frontier of settlement moved from coastal zones into increasingly more arid areas in the interior ([Christopher, 1982], [Christopher, 1984a] and [Christopher, 1984b]; O'Toole, 2006). In the late 20th and early years of the 21st century, economic and social change in the Karoo once again parallels that of the aforementioned areas. Notable in this regard are changes in the rural/farm economy, the increasing size of farm holdings, and the reduced rural population. Associated with these changes is the diminished dependence on rural towns which were established in an era of limited mobility, in favour of concentrating economic activity in a smaller number of larger, central towns (Daniels, 1989). The phenomenon of rural depopulation and associated decline of small towns seems to be particularly acute in the Plain and Prairie areas of North America (Broadway, 2000; Semple, 1990) and the Outback of Australia (Collits, 2006). Changes in transport technology, competitive pressures from globalisation, shifts in the locus of economic activity, and the attraction of the city to the young have profoundly affected the economic viability of many small towns (Mattson, 1997). While a case might be argued that socio-economic conditions in semi-arid regions have deteriorated in recent decades, closer analysis reveals a more complex picture. As Davidson (1990) notes, certain small US towns, that serve as regional centres, are experiencing growth. Interestingly, Davies (1990, p. 318) study of the Canadian Prairies, which also matches our findings for the Karoo, established that for 'the Prairie settlement system as a whole, concentration in the bigger places, not a population turnaround, or a clean break with the past, was the dominant trend'. Thus, there is selective economic and population decline in some places in semi-arid areas, but continuing growth in better-resourced central places.

## 3. Marginalisation

Critical in geographical research are the concepts of spatial and temporal disparity. Inherent in the distribution of economic activity across geographical space is the concept of the unequal distribution of resources, activity, and control which is seen as implicit in a neo-liberal world order associated with the notion of geographical unevenness (Harvey, 2006). Technological change, particularly that which liberates production and consumption from spatial constraints, both advantages and marginalises regions on a selective basis making a region's boundaries 'highly porous and unstable' (Harvey, 2001, p. 329). Over-accumulation of capital within a particular geographical area creates what Harvey (2000, p. 23) terms a 'spatial fix' which becomes magnified over time.

Geographical analyses have traditionally focused on quantifiable, objective regional disparities and disadvantages, but more recently have also begun to take cognisance of more qualitative social and cultural aspects which reflect both

actual and perceived differences. This bears out Leimgruber's statement that 'the study of marginality is not simply "objective" research but it is related to human perception' (Leimgruber, 2004, p. 16). In the case study of the Karoo, changing human perceptions of the region have influenced its perceived status and place in the national economy.

If one assumes that geographical unevenness is a reality, certain areas will emerge as peripheral or marginal compared to those more centrally positioned and/or economically dominant. As has been noted, 'marginality' can be an absolute or a relative term; marginality may exist as a result of economic, social, political, and even perceptual processes (Schmidt, 1998 in Leimgruber, 2004). At another level, over and above absolute and relative differences, marginality needs to be understood as a subjective issue, whereby, in terms of individual or group perceptions, certain places or peoples are perceived to be relatively marginalised if they do not conform with the mainstream (Leimgruber, 2007).

The process of evolving marginalisation of an area such as the Karoo can be partially explained through two processes (in Leimgruber (2007)), namely:

(a) contingent marginality: this is a result of the prevailing neo-classical economic framework and resultant intentional and unintentional geographic unevenness; and

(b) systemic marginality: this is the result of controlled political and economic frameworks, where hegemonic political and economic systems produce inequities in the distribution of social, political and economic benefits.

A by-product of the preceding classification is collateral marginality whereby surrounding regions could be negatively or positively impacted upon (Leimgruber, 2007). The case study, however, reveals that such impacts are not necessarily always that clear-cut or of a negative nature, in that neighbouring or internal sub-regions may benefit, often at the expense of more marginal areas.

Clearly, the economic fortunes of regions evolve as a result of economic change, political shifts, changing land use, and associated human perceptions, creating and reinforcing geographical differences (Harvey, 2006). These manifest themselves in decisions to either invest or disinvest and in the context of associated systemic processes, can enhance or diminish the perceived centrality or marginality of a region. A key finding of research into marginality is the recognition that marginality does not necessarily create a fixed end-product. As noted above, Reynaud (1981 in Leimgruber, 2007) argues, 'inversion' can occur whereby a central region can become a peripheral one over time and vice versa. Reinforcement of the idea that marginality is neither fixed nor necessarily negative is provided by the stimulus effect which change and relative marginalisation can bring about. Decline of activity can help catalyse the creative search for economic alternatives (Leimgruber, 2007, p. 9).

#### 4. The Karoo region

The Karoo is a semi-arid area of approximately 4,00,000 km<sup>2</sup> situated in the central and western interior of South Africa. The Karoo can be considered to be a single eco-system, sub-divided into the winter rainfall Succulent Karoo and the summer rainfall Nama Karoo as identified by Rutherford and Westfall (1986) and Archer (2004); or the Nama Karoo and Succulent Karoo as identified by Mucina and Rutherford (2006). It is characterised by a low population density and an economy dominated by extensive rangeland agriculture. Esler et al. (2006, p. 25) recognise two recent major land use shifts within the Karoo region, namely a consolidation of 'economically non-viable farming units to form large land units' and secondly the 'sub-division of commonage and ranches acquired by the State from private landowners for redistribution to small farmers' as part of South Africa's land re-distribution process.

#### 5. The evolving pastoral economy of the Karoo

Prior to the mineral discoveries of the 1860s and 1880s, the South African economy was dominated by an expanding and extensive pastoral farming frontier in what was then the Cape Colony. European settlement of the interior took place from 1700 and extended well into the 19th century (Hoffmann et al., 1999). Land was allocated by the colonial authorities to farmers, initially on the well-watered coastal plains and later in the semi-arid interior region of the Karoo. The extensive nature of the pastoral system is indicated by the fact that 99% of the 27.5 mn ha of the Karoo has a carrying capacity of only one small stock unit per 3–6 ha. (Hoffmann et al., 1999).

Prior to 1870, the agricultural and pastoral products originating from this region dominated the economy of the country. The main resource was sheep wool that was critical to the development and expansion of the industrial economy of Britain (Beinart, 2002). Over time, the growing demand for wool by the British industrial economy led to an intensification of production, leading to the introduction of barbed wire and windmills and new animal breeds, such as merino sheep and angora goats suited to arid conditions ([Christopher, 1982], [Christopher, 1984a] and [Christopher, 1984b]). Sheep numbers rose from 2 mn in 1845 to 6 mn in 1855 and to 21.8 mn in 1911, with growth then being checked by drought, overgrazing, and economic depression (Christopher, 1982). By the 1850s, wool exports had risen to 10,000 tons p.a. ([Christopher, 1982] and [Christopher, 1984b]). These changes gradually transformed the small, largely self-sufficient farming districts into areas with growing linkages with an external economy. Within this process small towns acted as conduits of trade, services, and retail.

Decline occurred in the early 20th century because of drought, devastation of the rural interior during the Boer War, and probable over-stocking and associated erosion of grazing land. In parallel, rising population numbers, and the uneconomic sub-division of farms all hindered growth. By 1963, one-third of all farms were regarded as being un-

economic units. Despite attempts by the Dutch Reformed Church and the Land Bank to stabilise farming communities, decline continued, exacerbated by recurrent droughts and the gradual urbanisation of farming communities in an industrialising economy (Christopher, 1984b). Rural outmigration by the economically dominant white population was especially noteworthy, leading to the abandonment of up to half the homesteads in some districts in the 20th century.

In response, in the early 20th century, the state sought to stabilise rural communities and improve farming conditions through various schemes, such as subsidized voluntary stock reduction, encouraging rotational grazing and seeking to inhibit erosion of grazing land. The effects of such interventions were partially nullified by limited uptake, shifts in market prices, and serious droughts, particularly in the 1970s, which led to widespread farm abandonment (Blumenfeld, 1971). Despite very real concerns of absolute loss, in recent decades, the situation has stabilised because farming has come to be dominated by a reduced number of farmers, who generally are better skilled and resourced than in previous generations, and who have taken over multiple small, previously un-economic units to form more productive agri-business enterprises, operating on lower stock-densities (Hobson, 2007b; Keay-Bright and Boardman, 2006).

The new farmers have differing urban needs and improved transport and now bypass the under-resourced smaller urban centres in favour of purchases and sales in a limited number of core centres. The net result is a radical shift in the nature of the rural economy and the function and nature of the small towns within it. In overall terms, agricultural intensity and associated output appears to have fallen as more sustainable practices are followed. This, and the diminishing overall role agriculture plays in the national economy, has caused the Karoo to shift from being the economic heartland to becoming, in relative and perceptual terms, a marginal area.

In contrast to the government focus on farming concerns in the 20th century, in recent years the post-apartheid government is adopting a policy with a strong urban focus. This reflects the reality that the majority of the population has now urbanised and that the economy is dominated by the larger cities. In policy terms, the key 2003 National Spatial Development Programme divides the country into areas of high and low resource potential and economic activity and they contain proposals that government resources and support focus on the core nodes (The Presidency, 2003). Under such a scenario, the extensive rangeland of the Karoo with its low population density has been systemically marginalised. The situation has been exacerbated by the fact that, under the 1994 provincial demarcation process, the Karoo, which used to fall almost exclusively within the boundaries of a single province, has now become sub-divided among four new provinces, which tend to focus their resources on their key centres and generally regard the Karoo as a rural 'backwater' (Atkinson, 2006).



## 6. The towns of the Karoo

Within South Africa, the 'majority of towns were established to serve rural communities' in a pre-industrial era (Christopher, 1984a, p. 185), thus each rural community and its small service centre had to be relatively self-sufficient. Centres were strongly dependent upon the well-being of their hinterlands and were reliant upon the fortunes of these regions to ensure their sustainability. Integral to debates regarding degradation and changing agricultural output are the resultant impacts upon the local service centres. A dominant theme in South African geographical literature in the 1970s was the concern regarding the consequences of rural and small town economic and population decline (Meth, 1994; Smit, 1973). The perception was that, through the processes of rural depopulation, economic change, subdivision of farms, and loss of a skilled white population, many towns were losing their functions (Maree, 1970).

## 7. The Karoo in the 1970s and today

By the late 1960s, the abovementioned population and economic loss from South Africa's semi-arid interior occasioned both academic and government concern, culminating in a series of studies and government reports (Badenhorst, 1970; Banach, 1969; Blumenfeld, 1971; Cook, 1971; Daniel, 1971). These concerns are illustrated by Banach's findings that the Karoo in 1969 was 'lacking in economic opportunity and virtually stagnant in terms of population growth' (Banach, 1969, p. 66). Blumenfeld (1971) and Cook (1971) studies demonstrated a steady decline in the economy of the Karoo during the 20th Century, which was aggravated by the attendant challenges of isolation, limited resources, frequent droughts and the declining demand for wool. By the 1970s, therefore, the Karoo presented a picture of 'a static, and in certain instances retrogressive, economy when compared to the rest of the country' (Cook, 1971, p. 1).

In the contemporary period the Karoo as a result has come to be perceived as being an area:

- in economic, agricultural and population decline,
- marginalised through its division into four provinces,
- having a denuded landscape and
- with assumed small town decline.

This assertion reflects the dominance of an urban-based value system and the perceptual as opposed to actual marginality of the region.

## 8. Rural debates

For the past 100 years, predominantly as a consequence of the semi-arid nature of the Karoo, there has been an ongoing debate regarding how best to manage its biophysical environment. In particular, concerns focus on how to optimally graze the vegetation and to determine appropriate stocking rates. The overall picture has been complicated by evolving government policies and interpretations, and fluctuating market prices. The main focus has been the obvious and very visible impact of land degradation and deterioration of the vegetation and soil as a consequence of over-stocking. The Karoo has been the focus for a number of Government Commissions covering stocking densities and de-stocking options, fencing and erosion control, drought conditions, the causes and impact of desert encroachment and, more recently, land tenure. This led to an on-going and intensive debate regarding use of grazing camps and rotational systems. In summary, there exists a perceived negative relationship between stocking rates and degradation of the land that has tended to shape opinion (Hoffmann et al., 1999).

A key debate has been about whether desertification is a natural process within the semi-arid region or a causation process, which sees degradation as a consequence of over-stocking and poor management (Beinart, 2002). This dryland degradation debate which centred on the Karoo region has had an extended run and is, according to Dean et al. (1995, p. 258), 'characterised by a plethora of opinions and a dearth of published and reliable scientific evidence'. Dean et al. (1995) have recently re-evaluated the concept of desertification in the light of the on-going debate, with two major outcomes: firstly, a recognition, that given that the term 'desertification' has strong emotive implications and is possibly inappropriate, that the general term 'dry land degradation' would be a more accurate description. Secondly a contention that 'the extent, nature and apparent irreversibility of the process has been overestimated' (Dean et al., 1995, p. 247). This links to the debate on nature versus anthropogenic causes and they conclude that 'there are in fact natural environmental fluctuations that play a significant role in the Karoo's natural vegetation, hence the reliance of current grazing management strategies on the notion of degradation is 'potentially problematic' (Dean et al., 1995, p. 259).

## 9. Findings

The results extracted from the various census data sets detailed above illustrate the three themes of shifting agricultural production, small town and rural population change and small town economic shifts.

### 9.1. Agriculture

Despite the on-going ecological debate regarding land degradation and perceptions of over-stocking (Dean et al., 1995), the area under agricultural production (primarily extensive rangeland farming) in the Eastern Cape Karoo has remained

virtually constant at some 5.24 mn ha for 84 years, declining by only 2.5% over that time (Office of Census and Statistics, 1929; StatsSA, 2002). In contrast to the reality that the extent of farmland has remained constant, there has been a significant decline in the number of Eastern Cape Karoo farms. The total number has fallen by nearly 60% in 84 years from some 3500 to 1500 units. This situation reflects various core themes, namely: the demise of smaller, sub-economic units, land consolidation by more successful farmers into larger, more efficient units, economies of scale and rural depopulation (Office of Census and Statistics, 1929; StatsSA, 2002).

In terms of production changes over time, comparable financial indicators are difficult to secure because of inflation. Instead, since stock production constitutes effectively 100% of agricultural output, changing numbers of stock can be used as a surrogate indicator for production shifts. When investigating livestock numbers, the most apparent shift has occurred within sheep farming, the primary livestock-type, which serves as an indicator of environmental conditions and production shifts. Census results indicate an obvious decline of approximately 67% in overall numbers since 1928—from some 3 to 1.4 mn. (Office of Census and Statistics, 1929; StatsSA, 2002). The trend line reflects particular events such as the aforementioned economic decline in the 1970 and the 1993 drought which seriously depleted stock numbers; and the economic boom of the early 1950s (Hobson, 2007a, pers. com.). Similarly, cattle numbers reflect the two drought periods but, in contrast with sheep numbers, have increased in recent times, rising from 62,000 to 72,000 over the 84 years under review. Although cattle numbers are lower in absolute terms, their greater grazing requirements inherently imply that there will be lower numbers than sheep on similar hectarage. Goats are the third most abundant livestock with numbers remaining relatively lower and constant.

While the total stock numbers reflect a decline of 60%, if one standardises differences between animal types through the calculation of Livestock Units per hectare (Dean and Macdonald, 1994) the decline reduces to 43%. The absolute decline should not be perceived purely as a negative factor. This is because improved stocking techniques, better land management, and the reduction in the number of farms has introduced what are probably more effective and sustainable farming practices. This needs to be seen relative to the perceived over-stocking of the Karoo in the early years of the 20th century (Beinart, 2002). What the discussion does not reflect, and what does have a direct bearing on overall livestock numbers, is the reality that in recent years farmland has been increasingly converted into extensive game farming, thus creating an artificially lower number of domesticated animals (Hobson, 2007b, pers. com.). The switch to game farming is becoming a discernable trend within the South African landscape (ABSA Group Economic Research, 2003).

## 9.2. Rural population

From 1904 until the 1960s the rural population increased by a modest 12%, largely as a result of natural population increase. From Fig. 3, which illustrates rural population change in the districts of the Eastern Cape Karoo, it is apparent that absolute decline occurred from the 1960 maximum, such that, by 2004 the rural population had declined by 37% (Global Insight, 2004; RSA, 1970). Rural depopulation reflects urbanisation trends in a modernising economy and the rationalisation of the farming industry that has seen a decrease in the number of land-holdings and their associated workforce.

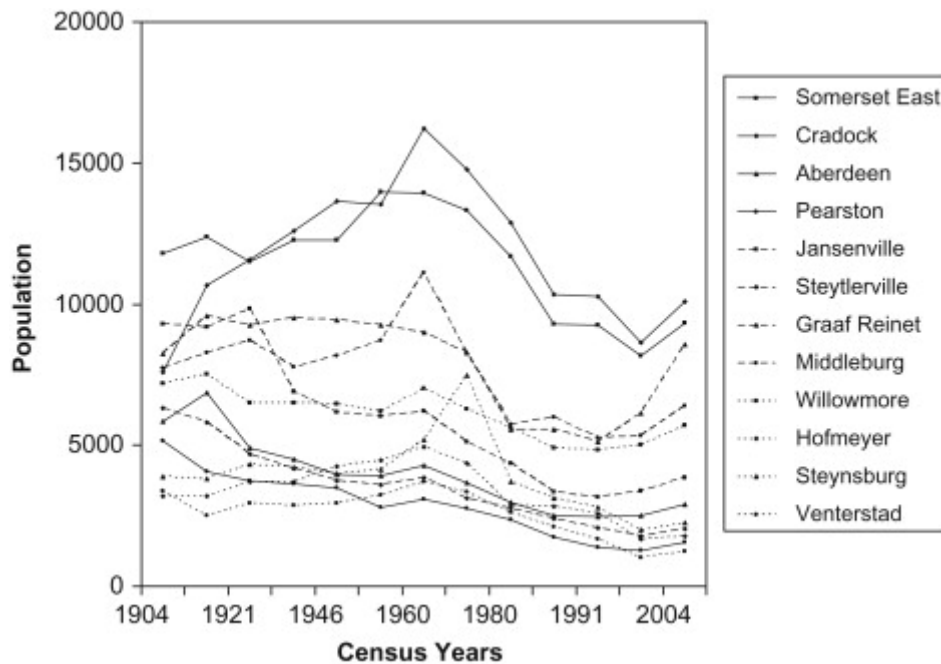


Fig. 3. The rural population by district; 1904–2004.

## 9.3. Urban population

In contrast to, and as a possible consequence of, rural depopulation, urban population in the study area's service centres rose by 240% from 1904 to 2004, with marked growth, of between 100% and 160% in individual centres, occurring since 1970 (see Fig. 4). In larger district towns i.e. those with more than 10,000 people in 1960 (Graaff Reinet, Middelburg, Somerset East, and Cradock) rapid growth is due to: their larger initial population size, more diverse economy, and the role they play as district centres (Office of Census and Statistics, 1929; StatsSA, 2002). By contrast, in smaller centres, although the population has increased, rates have been far slower than in bigger centres and, in

overall terms, a noticeable gap is emerging between the average size of the four larger and the remaining smaller centres. This reflects the centralisation of functions and the diminishing importance of what were once important, but economically non-diversified smaller agricultural service centres.

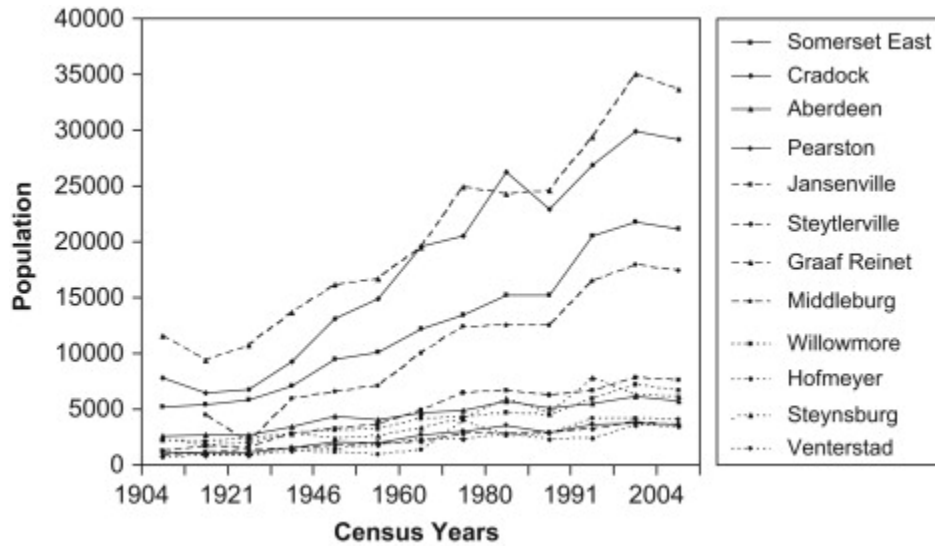


Fig. 4. Total urban population by town, 1904–2004.

#### 9.4. Small town economies

In order to ascertain the changing nature of small town economies, changing numbers of businesses since 1888 were used as a surrogate to reflect the economies of the investigated centres. All firms were considered in order to reflect both agricultural links and internal dynamics. The results are reflected in Fig. 5. The four larger centres (Graaff Reinet, Cradock, Middelburg, and Somerset East) have once again experienced a significant, and generally uninterrupted increase in their number of businesses since 1888 (192% increase on average) (Dennis Edwards, 1888; Telkom, 2006). The eight smaller centres, although showing some variation, tend to have had fewer businesses in 2006 than they had in 1888. Most small towns experienced business growth until the depression of the 1920s and 1930s, after which decline set in (a 55% decline from 1921 to 2006 overall), and the worst case, Pearston, lost 88% of its businesses (Dennis Edwards, 1888; Telkom, 2006). The results, similar to those of urban populations, reflect the centralisation of activities in a series of dispersed larger centres, which offer a wide range of central place functions and which have experienced cumulative growth. Although it is difficult to prove a direct correlation, it would appear that the growth of the larger centres parallels the decline of the smaller.

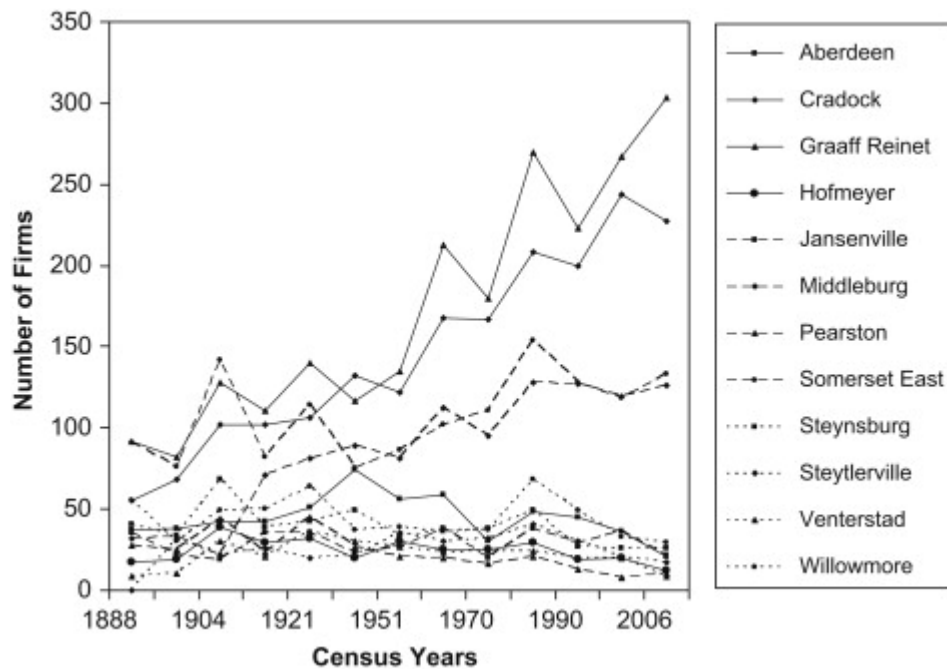


Fig. 5. Changing business numbers in Eastern Cape Karoo towns.

## 10. Discussion and conclusions

The case study illustrates that the study area has experienced fluctuating fortunes over the last 100 years. The most evident change has been from being a rurally dominated region composed of, in relative terms, a large number of relatively small, well populated farms serviced by minor service centres; to being a region with an economy marked by the dominance of a limited number of large service centres, the associated marginalisation of smaller towns, and a reduced number of farming units which have experienced greater levels of commercialisation.

In terms of agriculture, the absolute number of farms is in decline, whilst the area under production has remained constant, inferring that average farm sizes are increasing, which has implications in terms of the decreasing number of farmers and labourers. Overall, the stock numbers have declined in absolute terms, but in reality this probably reflects a shift to more efficient farming practices. In parallel there has been an increase in the number of game farms, and eco-tourist destinations, with wealthy business and professional people based in urban centres purchasing these uneconomic farms, and combining them into bigger, more economic units.

In contrast to the uniform picture in agriculture, there is an obvious divide between the four larger urban centres and the smaller ones, with a distinct difference in population growth and economic activity being experienced during the

recorded time period. The larger towns (+10,000 people in 1960) are undergoing significant population and business growth, whilst the smaller centres (−10,000 in 1960) are experiencing business loss, and limited population growth. Rural depopulation has paralleled the introduction of more efficient farming practices that require larger sized farms and smaller labour forces to operate reduced herds more effectively and productively. Depopulation and reduced stocking rates resulted in more sustainable production levels and have created the false impression that the area is in absolute decline. There is emerging anecdotal evidence that improved pastures are beginning to lead to increased stocking rates, which could have long-term negative consequences in a system recognised as being fragile and event driven (Hobson, 2007a, pers. com.).

The study's findings mirror the national trend towards enhanced urbanisation since 1960. Although causality cannot be proved, rural depopulation in the study area seems to match urban population growth. In economic terms, the degree to which activities are clustering in the four larger, higher-order centres is distinctive and parallels business closure in smaller centres. Reasons for this trend include improved mobility by farmers who are able to bypass once important local service centres, which are now losing functions, in favour of the more distant, diversified and growing larger economic centres. Urbanisation to the larger centres has been intensified by trends in the smaller towns which mirror rural depopulation, the most obvious being the closure of schools, financial institutions, and government services. The larger centres have diversified their economies which make them less reliant on the vulnerable rural economy and more reliant on their own larger population, which are increasingly based on service-sector and tourism activities. While small towns, and to some degree rural areas, have experienced levels of economic decline anticipated in the writings of the 1970s (Blumenfeld, 1971; Cook, 1971), the not insignificant economic expansion of the larger centres runs contrary to these predictions and reflects the dynamic nature of their economies and the significance of the centralizing tendencies and economic diversification which they have experienced.

The smaller service centres have survived economically through the emergence of a state welfare system, such that these towns, while experiencing a loss of facilities, have become points of welfare distribution in which residents are able to eke out a living. These processes and associated low skills levels, tie people displaced from rural areas and long-term residents to the small service centres despite loss of higher-level economic functions. As a direct result, these centres have not experienced the depopulation found in the towns of other extensive rangeland economies such as those of Australia and the USA.

Having used the Karoo as a case study to examine the notion of marginalisation, it is apparent from the data and arguments regarding appropriate stocking rates, that there has been no broad-scale process of economic marginalisation, although there have been short-term economic fluctuations. However, from both a perceptual and,

more recently, a systemic level, it can be noted that the Karoo is experiencing marginalisation through policy shifts and emerging negative perceptions. An obvious form of economic marginalisation can be observed from the declining economic profile of the smaller service centres. By contrast, through collateral processes, the larger centres, far from declining, are actually experiencing growth, possibly at the expense of declining smaller centres, which lie within their hinterlands and which are falling victim to improved transportation and agglomeration economies.

The economic and population growth taking place in the larger towns, and the persistence of a strong rural economy, negates the perception that the Karoo is either in decline or is marginal. An argument can be made that, in policy terms, the Karoo needs far greater attention in order to capitalise on its inherent and continuing strengths, particularly within the larger of the service centres. The recent experience of the Karoo reflects evident shifts in the region's economy and demography. Although change is inevitable, it does not necessarily imply decline.

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