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SOCIAL ASPECTS OF NATURAL RESOURCE MANAGEMENT IN RURAL KWAZULU

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ABSTRACT

Environmental degradation is widely regarded as an integral part of South Africa's homeland areas. Conventional thinking often blames so-called traditional farming practices, attitudes and values for this situation. In other words, the blame is placed with the residents of the areas and environmental degradation is explained away as the result of a particular cultural make-up. Following this line of thought, education via agricultural extension is mooted as the primary solution to what is regarded as an inherent problem.

The central concern of this dissertation is to examine the dynamics of natural resource management by residents of a rural area in KwaZulu known as *oBivane.* The thesis shows that the conditions leading to environmental degradation are best seen as the result of particular historical and political processes and not simply as the results of particular patterns of behaviour that are culturally driven. These processes, given primary impetus by massive population influx onto a restricted land base and combined with the peculiarities of differential access to resources and the need to preserve the interests of elite groups, have forced sectors of the South African population into situations where physical survival has necessarily had grave environmental cost. One of the consequences of apartheid policies has been to institutionalise environmental degradation in particular areas of the country.

The effects of the environmental degradation created through the "homeland" system will be with us for many years and, as the case study presented here demonstrates, the process of increasing degradation has probably not yet run its course. While certain local level remedies may be prescribed these remedies will address symptoms of the problem rather than the cause itself. In essence the problem is a political one and solutions (if at all possible at this stage) will have to be found at a national political and economic level.

ACKNOWLEDGEMENTS

My greatest debt of gratitude is to the people of *oBivane* around whom this study is written. Without their co-operation, patience, and friendship this study would not have been possible. I am particularly grateful to Aaron Xaba and Timothy Mthethwa both of whom gave me invaluable assistance during the course of the study.

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I am grateful to the Human Sciences Research Council for their financial assistance during the course of the study. The opinions expressed in the thesis remain my own.

Last, but not least, I am grateful to Colleen Gehren for her encouragement, support, and for putting up with the fieldwork absences.

NOTES ON NAMES USED

In this study all names are fictitious, except where I acknowledge assistance.

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"Apartheid is a killer and by far the most dangerous on the South African veld. It kills not only people but their land and environment as well" (UNEP report on apartheid and the environment, 1982 as quoted in Timberlake 1985).

CHAPTER ONE: INTRODUCTION

Background to the thesis

Images of South Africa's "rural black homelands[1]" are often those of bleak and eroded landscapes, over-grazed and over-populated. Alan Paton (1948:5) highlights some of these elements in his evocative prose.

> The great red hills stand desolate and the earth has torn away like flesh. ... Down in the valleys women scratch the soil that is left, and the maize hardly reaches the height of a man. They are valleys of old men and old women, of mothers and children. The men are away, the young men and girls are away. The soil cannot keep them anymore.

While this image probably reflects the situation more accurately than the tourist image of a rural population "living a tribal existence based on age old traditions" (KwaZulu Bureau of Natural Resources 1989) the underlying message for planners and developers (Spies 1986:60) is often that since

> ...infrastructural, social, economic and other factors that may *inhibit traditional agriculture from developing* will continue, we should expect a systematic destruction of the agricultural potential of the soils in KwaZulu over the long term unless innovative and urgent steps are taken to avert this threat.

Following this line of thought, arguments detailing a series of inherent weaknesses in what are generally labelled "traditional" agricultural and land management systems are spelled out. These weaknesses are then linked to increasing population pressures on the land and, in these terms, environmental degradation is explained away. With a "satisfactory explanation" established for environmental degradation, solutions are then proposed. These solutions tend to focus on educating the rural dwellers, largely

through agricultural extension programmes, as to the advantages of modern agricultural practices, and on reform of the traditional land tenure system.

The primary concern of this dissertation is to examine the dynamics of natural resource management by residents of *oBivane,* a rural area within the "homeland" of KwaZulu.[2] According to Wulfsohn (1991) natural resources consist of soil, water, fauna and flora, and certain biomes and topographical features (coastlines, flood plains, etc). The natural resources that this dissertation is primarily concerned with are soil (arable land), grazing, and some floral species (for fuel-wood, medicinal purposes, handicrafts, building purposes, etc.). Other natural resources such as fish and game are excluded as they play a relatively minor role in the day to day existence of the people of the research area.

Management refers to local management of these resources in the context of rural development and ongoing social and cultural change. Clearly this management can be undertaken within the broad spectrum of social goals that includes conservation, "sustainable development", and maximizing short term profit.

In attempting an analysis of the dynamics of natural resource management, I would concur with Murray (1981:1) when he contends that one of the central concerns of anthropology should be the "interpretation and integration of micro-level data within an analysis of historical and current macro-level economic and political processes".

This thesis will attempt (a) to provide an analysis of resource utilisation and management in *oBivane* within the context of the wider geographical region, of the historical and macro political-economic forces that have shaped the research area, and

(b) to demonstrate that resource degradation cannot be explained away as a function of "traditional" land management systems and over-population.

This thesis argues that this view is simplistic in that it over-homogenises homeland rural areas and is therefore not sensitive enough to the variations, generated largely by historical developments, that have resulted in differentiation between, and within, homeland (sub)regions. Furthermore, it does not provide much insight into the dynamics of decision-making with regard to the management of natural resources. The argument forwarded here is that an analysis of the ways in which local-level decisions are made (or not made) is crucial to understanding systems of resource management and to tracing reasons for the degradation of natural resources.

This thesis shows that, while the wider area has been subject to the massive population influxes characteristic of many of the homeland areas of South Africa, *oBivane* has been protected, until very recently, from many of the effects of removal and resettlement. This was largely achieved through the ability of local interest groups to restrict access into the research area and to ensure that resettlement was concentrated in neighbouring settlements.

However, while the people in the research area enjoy greater access to a range of natural resources than in many other homeland areas this thesis shows that this situation is changing, and the resource base is therefore under stress. During the course of this thesis two reasons are forwarded for this.

Firstly, the thesis argues that the process of resettlement of people from "white" areas into the research area is not yet complete. Furthermore, the groups that have restricted access into the research area in the past no longer share a concern for

protecting the resource base and therefore the area is subject to an unprecedented influx of new settlers.

Secondly, this thesis argues that while the area is relatively unique, in that many natural resources are more readily available than in other homeland areas, the area shares many of the socio-economic characteristics of these other areas. The thesis shows that one of these characteristics, namely the existence of a high degree of material differentiation between households, is also instrumental in placing the resource base under stress.

Outline of the thesis

The rest of this chapter examines the specific area in which the research took place and gives some regional background information. The chapter concludes with notes on the methodology employed and gives a contextual introduction to the research process.

Chapter Two is a theoretical chapter and starts by outlining the so-called conventional understanding of resource management in rural homeland areas. The second part of Chapter Two is devoted to introducing elements of an alternative understanding of resource management. Chapter Three leads on from this discussion and is primarily a historical analysis of the research area and the surrounding regions. More specifically the chapter examines the ways in which people were dispossessed from the land and how local interest groups fought to restrict access to the local resource base.

Chapter Four is empirical in content and gives the results of the initial survey undertaken in the research area. Chapter Five is also empirical and examines the

context of natural resource management and the role of local knowledge. Chapter Six looks at the impact of socio-economic differentiation on the sustainability of the resource base.

Chapter Seven is primarily concerned with the effects of population influx onto a restricted land base and examines increases in demands for grazing and for firewood. Chapter Eight presents a case study of *izinyanga* (healers/herbalists) as specialist resource managers and points to some of the ways in which they are attempting to protect the local resource base. Chapter Nine is the concluding chapter.

Research area

The research area is situated in the magisterial district of Simdlangentsha in KwaZulu.[3] As is widely known the area of KwaZulu was conceptualised in apartheid planning as the region in which those people designated as belonging to the "Zulu ethnic group" could satisfy their national aspirations. Aesthetically the area in which the research was undertaken is rather pleasing and Laband's (1987:1-2) lyric description, in contrast to Paton's description cited earlier, does some justice to the impression created by the wider region in which *oBivane* is located:

> It is a region of high relief, where the river systems have cut deep valleys through the terrain. The beautiful, red-earthed valleys of the Assegai, Pongola and Bivane rivers contrast with the great granite flat-topped mountains and the rugged broken countryside between. The landscape is open and grassy with forests crowning some of the higher peaks, and with bush filling the kloofs. A region of reasonable rainfall, the summers are wet and warm and the winters cold and dry.

The Bivane and Pongola rivers form the "border" between the Simdlangentsha area (see Figure 1) of KwaZulu and "white" Natal. The area south of the Bivane River and

south of the Pongola River (after its confluence with the Bivane) is demarcated as "white" farm land. The relationship between the residents of "border" areas of Simdlangentsha and the "white" farmers is generally negative and accusations and counter accusations of stock theft and theft of grazing are commonplace (Department of Water Affairs 1989). The degree to which this may be seen as a struggle for resources played out at a highly politicised local level, will be examined later in the thesis.

Politically Simdlangentsha operates along the lines of the Tribal Authority system and is divided into nine Tribal Authority areas. Tribal Authority areas are local administrative units, within the homelands, whose geographical extent has been demarcated as an act of Parliament. Each of the nine Tribal Authorities in the district is ruled by an *inkosi* (chief) who exercises some executive powers at a local level. The appointment of chiefs is covered by sub-section 7 of section 2 of the Native Administration Act as amended. Legislation passed by the KwaZulu Legislative Assembly (Chiefs' and Headmen's Act of 1974) also spells out the role and function of a chief. Theoretically the *inkosi* makes decisions in consultation with his *izinduna* (headmen) each of whom controls a smaller ward within the Tribal Authority area.

The most important civil servant in the region is the local magistrate located in Pongola. The magistrate is advised by a Regional Authority which is composed of the *amakosi* and prominent *izinduna* from Simdlangentsha and surrounding areas. In addition, the entire Simdlangentsha area is represented by two members of parliament in the KwaZulu legislature. The split between parliamentary constituencies reflects the primary administrative division within Simdlangentsha itself. Eastern Simdlangentsha, officially referred to as Simdlangentsha I is the area north of the Pongola River. Western Simdlangentsha, or Simdlangentsha II, with which this thesis is concerned,

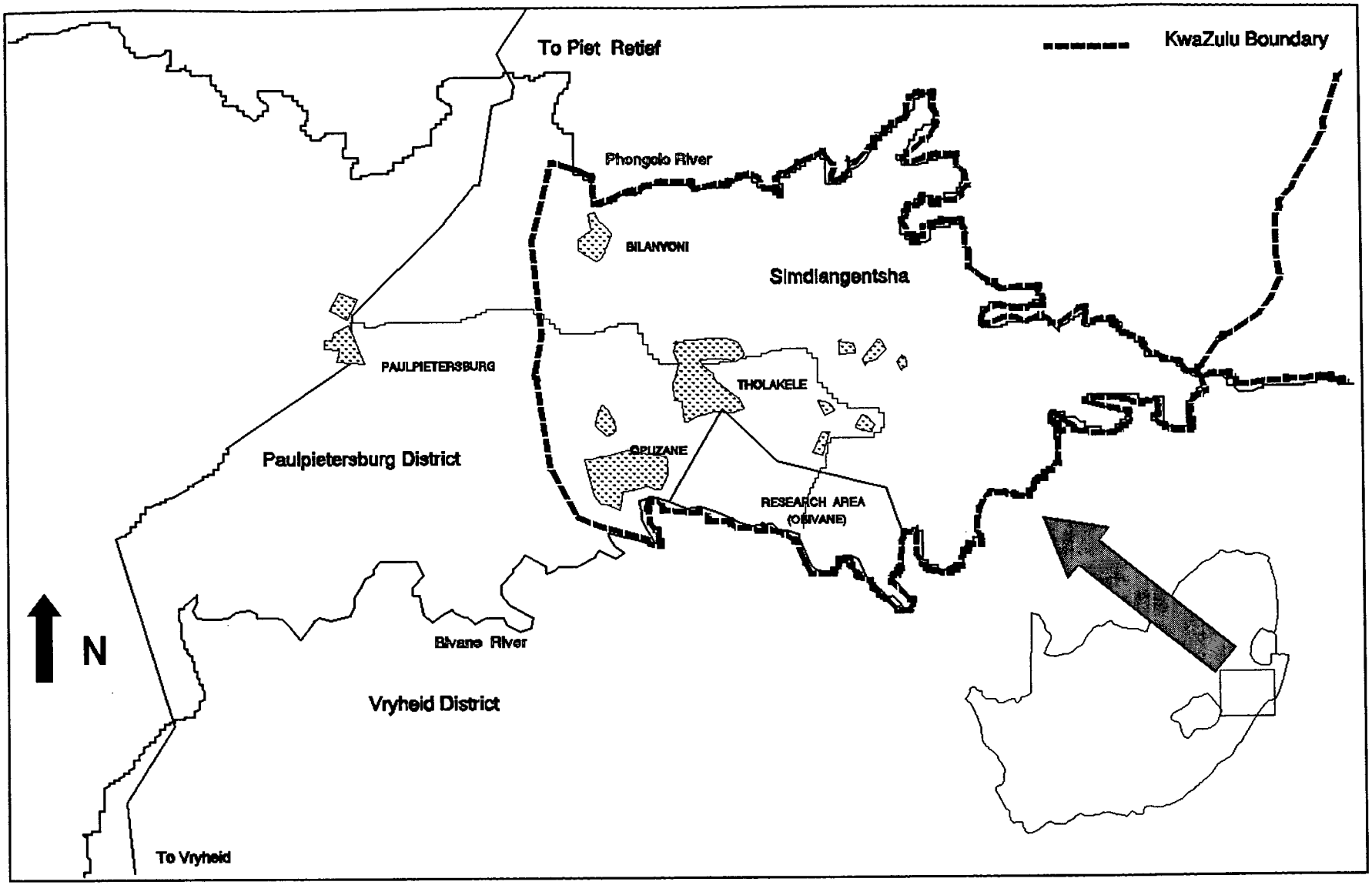

Figure 1 Geographical location of research area (Scale ±1:250 000)

is the area between the Bivane and Pongola Rivers. *Bilanyoni* acts as the administrative centre for the western part of Simdlangentsha. The South African state (particularly the former Department of Development Aid) and various KwaZulu departments have offices in the town.

The unadjusted 1985 Census records a total "black" population of 84 070 for the Simdlangentsha district.[4] According to the 1991 Census data (adjusted figures) a total of 120 228 people were recorded for the Simdlangentsha area. This represents an increase of approximately 6% p.a. and according to demographers at the Human Sciences Research Council (HSRC) is probably attributable (a) to the undercount in the 1985 census and (b) to the inward migration of agricultural labourers from the surrounding "white" farms[5].

Research for this thesis was concentrated in a part of the Mthethwa Tribal Authority (MTA) area within western Simdlangentsha. *Inkosi* Mthethwa, who is resident in the proclaimed town of *oPuzane*, presides over the inhabitants of the nine Trust Farms that make up the MTA. Trust Land is that category of land purchased by the State in terms of the 1936 Act (See chapter three for more details). Until recently Trust Land was administered by the South African Development Trust. *Inkosi* Mthethwa has *izinduna* representing him on the Trust Farms and in the wider Piet Retief, Paulpietersburg and Vryheid area. The fact that people who apparently proclaim political allegiance to *inkosi* Mthethwa (i.e. recognise his authority) still reside over a wide geographical area (and not only within a relatively small block of land which is officially labelled as the MTA), demonstrates the degree to which the Tribal Authority is purely a government administrative unit.

For the purposes of this research 140 homesteads on the formerly South African Development Trust Farms of Pivaanspoort, Schurwerand, and Belemmerd (all falling within the MTA) were selected. Farms that were administered by the SADT consist of land that was purchased in terms of the 1936 Native Trust and Land Act. This land was acquired in terms of the quotas set aside for later procurement rather than land that was originally scheduled for occupation by Africans in terms of the 1913 Land Act (see Chapter Three for more detail). In 1992 most of the remaining SADT farms were handed over to the relevant homelands. The farms included in the research area were part of this transaction.

The 140 selected homesteads included within the scope of this research form a contiguous block located in the valley between the Bivane River in the south and the hills to the north (see Figure 2). A gorge separates the research area from the closer settlement area of *oPuzane* to the west. The eastern boundary was, for research purposes, arbitrarily determined by an imaginary line drawn from the local primary school to the only access road in the area.

Recent aerial photographs and a contour map were used, in the initial research phase, to demarcate the research area. One of the residents in the area assisted in demarcating the homesteads according to their *isibonga* (clan-names/surnames) and to map their kin relationships. It needs to be stressed that the research area does not form a "community" (see Thornton & Ramphele 1988) but was purposely demarcated for research purposes. The area in which the research was undertaken is generally called *oBivane* by the local residents.

Given the stated aim of this thesis *oBivane* provides a useful case study in allowing an exploration of the extent to which local knowledge may contribute towards sustaining

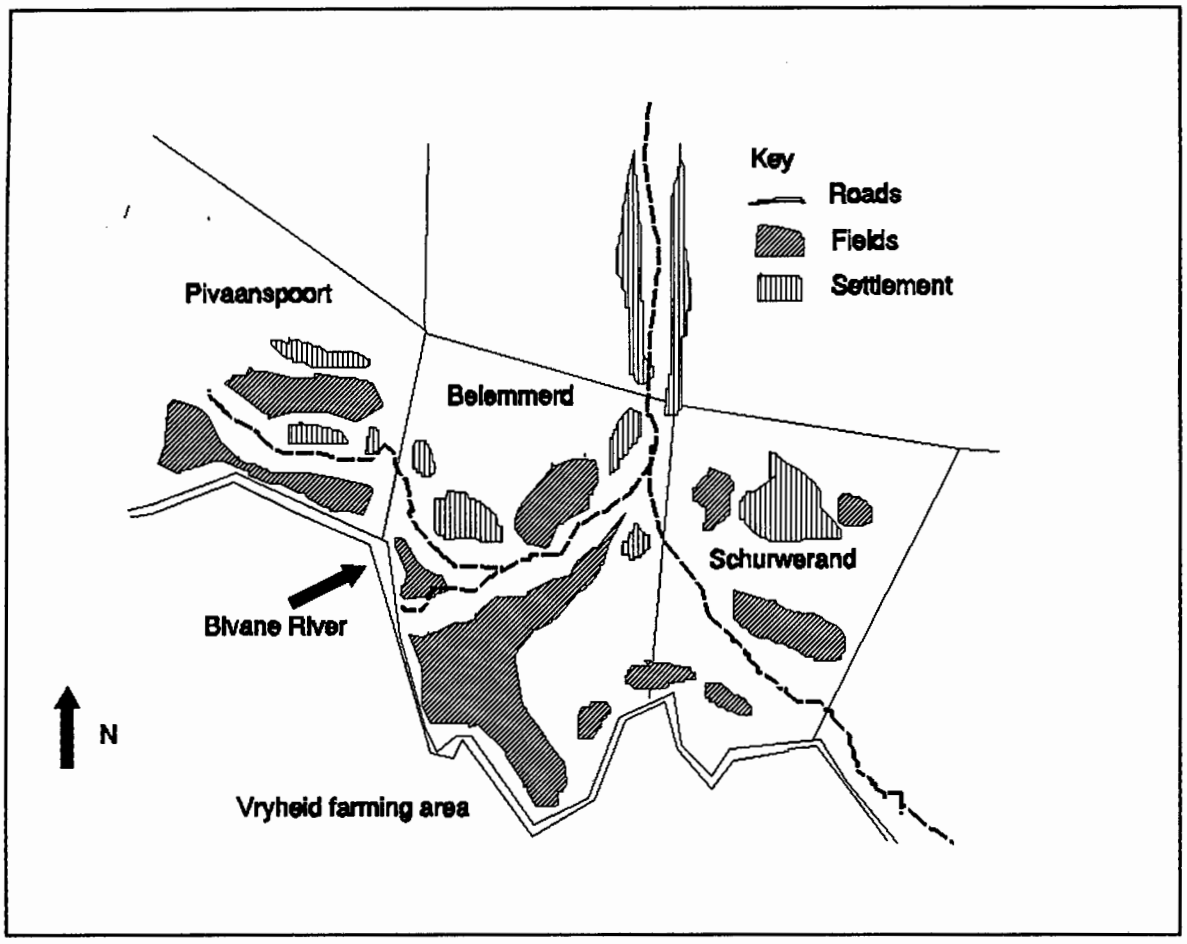

Figure 2 Schematic drawing of research area showing farm boundaries and Bivane River (Scale 1:50 000)

viable agricultural practices. This is one of the primary reasons that it was selected as the research area. Four possible reasons are forwarded for suggesting that local knowledge has had a positive impact on sustaining the resource base in *oBivane*.

Firstly, as will be shown later *oBivane* has not been subject to the massive population influx that has characterised so many of the "homeland" areas until very recently. This is a critical point in that there would be little point in attempting an assessment of local agricultural knowledges in an area that had been affected by massive population influx. Under these circumstances local knowledge will almost certainly have been profoundly affected by radical changes in the physical and socio-economic environment.

Secondly, and this will also be shown, agricultural activities are a cornerstone of the economy of *oBivane* and an economically viable agricultural base remains intact for at least some of the households. Thirdly, the remoteness of *oBivane* means that little in the way of formal agricultural extension work has been carried out in the area. Knowledge about agricultural practices are either indigenous or informally accumulated and dispersed. Fourthly, *oBivane* has never been subject to betterment planning and settlement patterns, and the allocation of lands have been largely internally controlled. An understanding of these conditions provides the context for a discussion of whether the claims (spelled out later in this thesis) made by agricultural officials are appropriate in *oBivane*.

The physical infrastructure in the area at the time of the research (1990 - 1993) consisted of a gravel/dirt road to Paulpietersburg, a primary school, a shop, a water pump, a cattle dip and a makeshift soccer field. The only other infrastructure in the area was a pump station. People in the area derive no direct benefit from the pump station however as it is used solely to pump water from the Bivane River to the coal mines at Hlobane and Coronation some 30km away.

While each of the Trust Farms is theoretically meant to be represented by an *induna*, this situation is not always realised in practise and different people in the area may play representative roles as the situation dictates. In the *oBivane* area the presence of an *induna*, the *inkosi's* uncle, and a tribal policeman creates a variety of authorities that gives residents some leeway to play one off against the other. Furthermore, although the member of the legislative assembly for Western Simdlangentsha is primarily resident in the resettlement area of *Bilanyoni* he keeps a second homestead in *oBivane* as this is his birthplace. He too is an important authority figure in the area.

The physical features of the sub-region

In order to contextualise aspects of resource management, a number of the most important features of the physical environment are outlined. This will demonstrate that the area is relatively rich in natural resources and well suited to certain types of agriculture and livestock management.

Geography

The primary geographic characteristics of *oBivane* are (a) the Bivane River which forms the area's southern boundary, and the current "boundary" between Natal and KwaZulu, (b) the relatively flat valley floor, and (c) the comparatively steep hillsides. The perennial Bivane River, a principal tributary of the Pongola River, rises on the edge of the highveld escarpment near Wakkerstroom at an altitude of approximately 2100m. The importance of the Bivane as a relatively major water source is evident from recent investigations into the possibility of damming the river to provide irrigation for a sugar cane production scheme in the Pongola area[6].

From the lowest point of approximately 700m at the river's eastern tip (within the demarcated research area), the initially flat valley floor rises steeply into the hills that form the northern boundary of the research area. The highest point of the research area is approximately 1090m. The research area is 3 038,8ha in extent.[7] Two definite, although not always distinct, ecological zones may be discerned by changes in vegetation within *oBivane*. The first zone lies within the relatively flat valley floor area (which makes up approximatley 35% of the research area) while the second zone is consistent with the steeper grassy slopes of the mountainside and plateau. According to the Department of Agriculture (1986:33) more than 80% of the valley floor has a

slope of less than 8%. In contrast less than 20% of the hill-side slopes have an average gradient of less than 8%. Demarcation of 8% zones is important for assessing the suitability of the area for agricultural production as well as the general vulnerability to soil erosion. The valley floor is the more suitable of the two zones for agricultural purposes.

Climate

Most of the *oBivane* area falls in the climatic zones labelled 303S and 304S (Department of Agriculture 1986). The average rainfall for zone 304S (the lower valley floor) is 575mm per year, while the average rainfall for zone 303S (the upper slopes of the surrounding hills) is 700mm per year. *oBivane* is characterised by relatively low rainfall compared to the mean for the wider area of Vryheid (850mm).

The distribution of rain however favours certain forms of agriculture. The rainfall is concentrated heavily around the peak agricultural season of November to March but may be variable with droughts occurring from time to time. Figure 3 below shows the annual rainfall for the years 1976 to 1987 for the Vryheid region. Note the particularly high rainfall for 1984 (the effects of the Demoina event). Note too that while rainfall for 1980 to 1983 (Natal drought years) is below average they are not particularly bad.

The temperature is relatively moderate. January is the hottest month with a mean temperature of 22,4 °C and a monthly maximum average of 28,8 °C. June is the coldest month with an average monthly minimum of 5,3 °C.

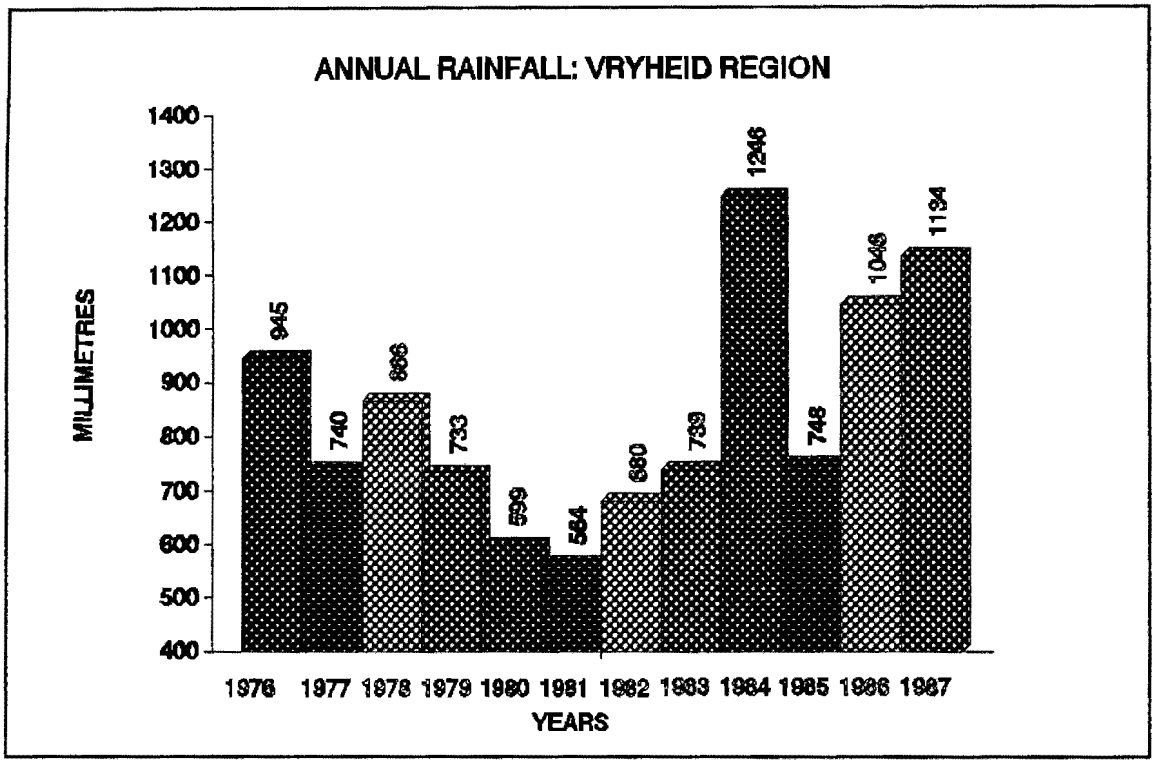

Figure 3 Annual rainfall: Vryheid region.

Veld Types

According to Acocks' (1988) study of the veld types of South Africa the research area is located within the transition zone between what is labelled "Lowveld" and "Northern Tall Grassveld". Examination of the veld in *oBivane* shows that even though there is not a clear delineation between the different veld types there is at least a gradual change. The valley floor which makes up most of the fertile agricultural area with its woody and scrub areas is more typical of Lowveld. The grassy hillocks and mountain plateau on the other hand appear more typical of a grassveld area.

Lowveld typically occurs between 150m and 700m according to Acocks (1988). This puts *oBivane* very much on the fringes of the Lowveld in terms of altitude. Rainfall in Lowveld areas is between 500 and 750mm according to Acocks which concurs with the figures given by the Department of Agriculture for this climatic zone. The dense scrub characteristic of much of the uncultivated valley floor certainly gives parts of *oBivane*

a Lowveld look. In addition, the occurrence, in *oBivane*, of many of the floral species, named by Acocks as typical of Lowveld, lends weight to this classification for parts of the area.[8]

Crops associated with this veld type include maize, groundnuts, sorghum and potatoes (Thorrington-Smith *et al.* 1978:76). Variable rainfall characteristic of Lowveld areas is generally considered the major agricultural constraint, but this veld type is said to yield exceptionally good crops under irrigation (Thorrington-Smith *et al.* 1978:79). Grasses of the valley area incline towards sweetveld and mixed veld. These areas are associated with good cattle grazing with few constraints beyond levels of "carrying capacity" (Thorrington-Smith *et al.* 1978:79).

According to Acocks the Grassveld area is characterised by a higher rainfall than the Lowveld and is generally more elevated (800m to 1500m). In the case of *oBivane* both these conditions hold true. The principal crops associated with Grassveld areas include maize, groundnuts, lucerne, grain sorghum, cowpeas, and wheat (Thorrington-Smith *et al.* 1978:67). Areas of this kind are characterised as relatively harsh. Cultivation is generally fraught with the hazards of drought, poor drainage, and erosion. Crop farming tends to be marginal. However, and of importance in terms of resource management, the "Northern Tall Grassveld" areas tend towards grasses of the sourveld variety so that livestock farming is relatively well suited to these areas (Thorrington-Smith *et al.* 1978:70).

Soil types

The *oBivane* area falls within the spread of soil types that are classified as Fb 205 (the higher mountain sourveld) and Fb 211 (the lower valley floor) by the Department of

Agriculture. According to the Department of Agriculture (1986:11) the landscapes grouped in the series Fa to Fc are:

> ...pedologically young landscapes that are not predominantly rock and not predominantly alluvial or aeolian and in which the dominant soil forming processes have been rock weathering, the formation of orthic topsoil horizons and, commonly, clay illuviation giving rise typically to lithocutanic horizons. The soil forms which epitomise these processes are Glenrosa and Mispah. However, exposed rock and soils belonging in almost any of the other 39 soil forms may be found in these land types... Shallow and deep soils of the Oakleaf form ... are accommodated here... Fb indicates land where lime occurs regularly (there need not be much of it) in one or more valley bottom soils.

Lands of this soil type tend towards areas of mixed to high agricultural potential. High concentrations of alluvial soils around the valley floor in *oBivane* give it considerable agricultural potential. A recent soil survey (Department of Water Affairs 1989) indicates that the majority of the relatively flat valley floor can be classified in either classes I or II (the prime classifications) in terms of agricultural capability. Maize yields of 1.6 tons per hectare with no usage of fertiliser were reckoned for these lands. This figure was based on calculations around the fertility of the deep "Shortlands" and "Oakleaf" soils found, by the survey, to be present in the valley adjacent to the river (Department of Water Affairs 1989).

Implications

The important point for this thesis is that analyses of the veld and soil types indicates that the agricultural and livestock potential of the area is relatively high. These analyses attest to the suitability of much of the "Lowveld" type valley floor for agriculture.

oBivane is also characterised by elements of sweetveld in the valley areas and by sourveld in the upper grasslands. This means that herders in *oBivane* are in a relatively favourable position and can graze their cattle within the specific geographical area for the entire year without having to move their cattle over large areas. In *oBivane* areas are demarcated by residents as predominantly winter and predominantly summer grazing (and these coincide with the demarcation between sweetveld and sourveld). Households tend to move their cattle across the areas between seasons. Because residential sites are generally located between the two veld type areas there is little extra effort involved in moving the cattle. The effects of the good grazing are evident in that while the cattle are not always in "show condition" at the end of the winter months they are very seldom in poor condition. Furthermore, the relatively low natural mortality rate of the cattle (only two cattle were recorded, in the 82 households sample, as having died during 1989) also attests to the relatively good grazing.[9]

The regional and (sub)regional economy

The area needs to be analyzed as part of the wider northern Natal/south-eastern Transvaal economic region. The economy of this wider region is based largely on the coal mines. In addition it includes mixed forms of commercial agriculture (including some livestock farming), some game farming, and, increasingly, timber production.

Despite the existence of some local economic opportunities, residents of *oBivane* area are relatively restricted in terms of their access to local employment. An employment profile of the residents (drawn from a survey of 82 households in *oBivane*) pointed to the importance of the Pretoria-Witwatersrand-Vereeniging area as the primary employment centre with local employment opportunities playing a secondary role. Only 51 of the 134 wage earners in the household survey (38%) were employed in the

wider northern Natal/south-eastern Transvaal region. There are a number of factors which inhibit access to local and regional employment and promote a fairly steady rate of migration out of the region and into the wider national employment centres.

Firstly, the region appears to be suffering a recession. There is a general decline in employment prospects in the mining and agricultural sectors, the largest employers of unskilled labour. In the magisterial districts of Paulpietersburg and Vryheid the census figures (see Table 1 below) show the relative drop in employment figures in these sectors, particularly noticeable from 1980 to 1985.

Table 1. Employment figures for "black"s (S.A. Census figures)

	Vryheid		Paulpietersburg	
Year	Nos employed in agric.	Nos employed in mining	Nos employed in agric	Nos employed in mining
1960	7318	8 601	3 327	242
1970	13 682	12 141	4 329	501
1980	6 386	13 002	3 451	926
1985	5 786	9 406	2 960	1 014

It is arguable that the decline in the fortunes of the coal mines and increasing capitalization of both the agricultural and mining sector are mirrored in the steadily falling number of "blacks" employed in these mines from 1980. For an area heavily dependent on coal this decline in fortunes is evidence of a regional recession. The regional recession (compounded by the national recession) has further restricted the employment opportunities available for people in the *oBivane* area. The figures obtained from Central Statistical Services (CSS), and given in Table 2 below, for

national employment on the coal mines (with the northern Natal/south-eastern Transvaal region constituting the major coal areas) illustrate this point.

Declining employment figures in the post-1980 period show a degree of similarity to declining coal production figures. Production figures for the years between 1960 and 1983 indicate that output rose from 5 500 000 tons in 1960 to a high of 14 000 000 tons in 1980 but slumped to under 9 000 000 tons in 1981 (Spies 1986). In general, a boom period starting in the late 1970s and continuing into the early 1980s was followed by a slump in the middle to the late 1980s.

Table 2. Employment figures for "blacks" in coal mines (Source CSS).

Year	Nos. employed
1970	66 539
1978	72 313
1980	92 230
1981	88 787
1985	84 149
1987	80 168
1988	75 276

The existence of these trends was confirmed in an interview with officials from the Hlobane and Coronation mines. Both parties agreed that production figures had been declining from the early 1980s and blamed it on a decrease in international demand for South African coal, partly due to economic sanctions. As a result employment

opportunities available to the people of *oBivane*, in the coal mines of northern Natal, are few and far between.[10]

Secondly, it became apparent during the research that those organisations that employ local people on a relatively extensive basis (Hlobane coal mine, Coronation coal mine, and Hunt, Lechard & Hanley {HL&H} timber are the most prominent examples) tend to recruit their labour either from the more densely-populated "closer settlement" areas (particularly *Bilanyoni*), or else from further afield. This was confirmed in interviews with the labour recruitment and personnel officers from each of the companies mentioned above. It appears that there are a number of historic reasons for this labour recruiting pattern.

In 1924 the Vryheid labour district, including the areas of Ngotshe, Utrecht, Vryheid, and Paulpietersburg, was declared. The area was demarcated to facilitate provision of labour partly to the "white" farms in the region and particularly to the coal mines. At the time the labour profile of northern Natal was characterised by a large number of people employed in agriculture - either as labour tenants or squatters on "white" farms or, to a lesser extent, as wage labourers for large "white" farming concerns in the area.[11] Despite the efforts of the labour office in Vryheid, it seems that initial attempts to attract people into employment in coal mining met with little success[12]. A glance at the history of the employment policy and working conditions at Hlobane coal mine sheds some light on this situation.

Hlobane mine is the largest single employer in the region but historically has attracted its labour force from Swaziland, the Transkei, and even Mafikeng and Mozambique (Edgecombe & Guest 1986). According to Edgecombe and Guest (1986) the extremely poor working conditions that prevailed from the founding of the mine in 1898 until the

1950s, ensured that those who could avoid working at the mine did so. As Crush (1984:111), referring to the period 1910-1918, puts it:

> The Swazi workers rapidly discovered for themselves that their longstanding avoidance of the coalfields was amply justified. The long history of abysmal working and compound conditions on the Natal coalfields, and at the Hlobane mine especially, were revealed.

Given the extremely bad reputation of the mine in the area, and the relative security that many people had on the squatter and tenancy farms, few were willing to work at Hlobane mine. In order to overcome the chronic labour shortage that the mine experienced, recruiting drives were instituted far afield and labour was drawn from a wide area.

This trend in labour recruitment persisted until recent "faction fighting" (in which 12 migrant workers from the Transkei were killed in September 1990) led to a review of this policy. According to the labour officer at Hlobane mine, all workers will be drawn exclusively from KwaZulu areas in future. He also stated that at present the majority of the "Zulu" labourers come from the Nongoma area of KwaZulu and are housed in single-sex quarters. Only a relatively small percentage of the workforce comes from the more immediate Vryheid/Paulpietersburg area. In a subsequent interview with the labour officer he stated that the mine had introduced a policy of employing as many people from the surrounding areas as possible as the mine was trying to phase out the hostel system.[13] However, the officer also stated that the mine had not had any labour recruiting drives in recent years and that their labour turnover was actually very small.

People in the *oBivane* area no longer appear to be averse to working on the coal mines in the region although their prospects of employment are not very good. Interviews with people highlighted the fact that employment on the mines at Hlobane (and neighbouring Coronation) is highly sought after.

While employment prospects on the coal mines are relatively bleak, timber appears to be the major growth industry in the area. The Paulpietersburg magisterial district is roughly 1 520km^2 of which about 25% or 380km^2 is presently under forestry (personal communication with local forestry official). Forestry is concentrated on "white"-owned farms, with the HL&H company (part of the Anglo-American group) the major concern. Although timber appears to be a growing industry it has also been under some pressure as a result of a declining demand for South African paper pulp. According to a Mondi official interviewed in early 1992 this decline is partly due to increased international competition from South America and to the imposition of European Community restrictions on the import of paper pulp.[14]

Some employment opportunities are offered on the timber estates and at the Dumbe Mill in Paulpietersburg. The vast majority of the labour that is needed is drawn either from *Bilanyoni* and *oPuzane* or from the Paulpietersburg township of Dumbe. These settlements are closer to the mill and to most of the estates than *oBivane*.

Some of the farms now under timber were farms occupied by labour tenants and when the farms were converted into timber estates the labour tenants were removed. A great deal of bitterness still exists over the way in which this occurred, so much so that the personnel officer at Dumbe Mill expressed concern over the vulnerability of timber plantations to sabotage (particularly during the dry winter months) and was wary of moves to retrench staff which he reckoned could further exacerbate a volatile

situation. In *oBivane* itself bitterness towards HL&H is often expressed. This is partly as a result of the fact that some of the residents in *oBivane* are former labour tenants displaced by the expansion of silviculture.

The town of Paulpietersburg is essentially an agricultural service town, and some employment is offered by the smaller commercial concerns in the town. These concerns include three vehicle service stations, an agricultural co-operative, a number of trading and hardware stores, three banks, two bottle stores, a hotel and Transnet's fairly busy railway siding. Most of the labour for these activities is drawn from the nearby formal township of Dumbe.

Of importance, for this thesis, is that local employment opportunities are fairly restricted. While wage incomes are important for the survival of many households in *oBivane*, restricted access to employment means that the agricultural base is equally important for the survival of many people in the area.

Notes on methodology

When selecting a topic to pursue for this thesis I decided to continue with a field of interest that I had started in my honours thesis (an exploration of livestock management and the "cattle complex") and to broaden the scope of study. This thesis examines not only livestock management, but also a range of other resource management practices. Resource management was selected as a field of study for three reasons: a) it is a topical subject of importance to the current transitionary context in South Africa, b) I had done some prior exploratory work on the theme, and c) I had a personal interest in the theme and felt that research in a deep rural area

may contribute to furthering the discussion of natural resource management in South Africa.

As I intended initially to work in KaNgwane I applied for permission from the relevant authorities. While waiting to obtain permission the division in which I am employed in the HSRC was asked to undertake a project for the Department of Water Affairs and Forestry. This project involved an investigation into the social impact of a proposed dam on the Bivane River. The dam, if built, would flood a number of huts and fields utilised by people living along the banks of the Bivane River. The field research for this project (August 1989) brought me into contact with the area and persuaded me that it would be suitable for the purposes of my thesis. In addition colleagues of mine in the HSRC also expressed an interest in pursuing action-oriented and development research in the area. While my primary concern was with research around natural resources, their concern was with rural development and the impacts of development. Although our work was undertaken separately the research efforts often worked in tandem and complemented each other.

While research for the Department of Water Affairs and Forestry provided an initial insight into the area and access to the research findings of a number of other experts, it also had some negative connotations. Many people in the area still associated my presence with the dam issue, and it took a number of formal community meetings and much informal discussion to convince people that I was no longer involved in research on the issue.

The research for this thesis started with a four-week field trip in November/December 1989 to familiarise myself with the area and to meet as many local residents as possible. The trip was spent socialising in some of the local shebeens, attending

various other social functions and generally learning the lie of the land. No formal research was undertaken, and most of the informal discussions I had with residents dealt with my intended research topic. A community meeting was arranged with some of the local "community leaders" and with the *inkosi* who lives in the nearby closer settlement area of *oPuzane*. As the *inkosi* had given his permission for my stay and for research to be done in the area, he was asked to arrange a community meeting so that as many people as possible could be informed about the nature of the research at a single occasion and to get permission to undertake the research from as broad a base as possible.

The community meeting which was attended by approximately 100 people was held in January 1990, and permission to continue with the research was granted. Issues raised at the meeting, however, reflected the general uneasiness people have about outsiders "examining" their lives. The issue of the dam being built was raised and people inquired about what was happening and what the outcome might be. Quite understandably the issue of the possible construction of the dam formed a constant theme of inquiry from respondents throughout fieldwork. The question was only officially settled in early 1992 after the Government White Paper on the Pongola River scheme was published. The White Paper rejected the planned Paris Dam on the Bivane River (partly as a result of the social impact report the HSRC had submitted). An official announcement attesting to this was made by members of the KwaZulu Government at a community meeting held in the area.

Once the meetings had been held, the initial task was to delineate the research area and start with a household survey intended to gather basic demographic and socio-economic data. The survey also served to introduce me to the households and give people a chance to question me more closely on the purpose of our research.

Living in a tent in the community also gave me the ongoing and immediate contact with people that I felt was vital to the anthropological ideal of "participant observation". In order to "perform as an anthropologist" I made it a policy to attend social gatherings in the area and to involve myself in "community life" as much as possible.

During the research my colleagues and I became convinced that the research process should include participation by local residents and that it should ultimately be used for their benefit. Frequent inquiries from local people about para-legal and bureaucratic matters convinced us that it would be a useful first step to establish an information office that would act as a formal link between ourselves as researchers with access to a fairly extensive information base (and relevant people and institutions with the necessary information and ability to solve information-access problems) and to those people in the area who encounter problems. Permission to build a hut to serve as an information office was sought and obtained.

By the middle of 1990 a single-roomed hut that formed a permanent research camp and information office had been constructed. The hut is located on the border of Schurwerand and Belemmerd i.e two of the research farms. The hut has a view over much of the research terrain and its proximity to people in the area gives a sense of immediate contact.

By this time it was apparent to me that much of the initial unease that people had about the research process had been overcome. Whereas the initial welcome was tempered by a sense of distrust regarding outsiders, who generally represented authority figures, this had been replaced by a degree of acceptance by a large body of

the local population. Local people were generally well informed about what I was doing, and appeared genuinely interested in my progress.

The change in attitude was probably due, in no small measure, to the efforts we had made to establish and promote the information office. The training and employment of a full-time member of the local community to manage the office also had some positive spin-offs for the research process. This person is extremely knowledgeable and his diligently-kept "village calendar" allowed me to catch up on the major events that occurred during my absence from the field. He recorded what he regarded as the significant events in the immediate area: births and deaths; marriages and divorces; veld fires and when it rained; some minor topics of gossip; public fights; the theft of cattle, goats, etc. and raids by the local stock-theft unit into the area; arrests; rituals and ceremonies; public meetings; and a host of other events.

A second community meeting was held to report back on the progress of the research. In addition, priorities for development and research were outlined and discussed during the meeting and approval to continue with research was granted. Furthermore, the research process identified people with particular problems (e.g. those eligible for old-age pensions or disability grants but not receiving them), and helped to make the benefits of research real to many people. This had an extremely beneficial impact on the rest of the research process.

During October 1991 (and following the submission of a detailed project proposal drawn up in conjunction with the *oBivane* Development Committee) funding for a range of rural development projects was obtained from the social responsibility programmes of a range of companies.

Research and development has continued since 1991 and a relatively extensive data base has been built up. To date a number of development projects have been completed or are in the process of being completed. Physical infrastructural projects include the completion/partial completion of four school classrooms, spring protection and the laying of water pipelines to the school, construction of rain water tanks and toilets at the school and a planned community centre. In addition, a farmer's support group and a women's group have been established by the *oBivane* Development Committee. It should be emphasised that the development projects, while having a material element, emphasise institution and organisation building and "community reconstruction".

In summary, the findings presented in this thesis are based on approximately three years of research in the area, with formal fieldwork utilising both qualitative and quantitative research techniques. Three surveys have been undertaken independently of each other. The first, which sampled 82 households, was undertaken between January and June of 1990, and collected basic socio-economic data. The second was undertaken in March 1992 and collected agricultural production data from 10 households. Respondents were asked about agricultural and livestock inputs, management techniques and expected harvests. The third in July 1992 re-interviewed the same ten households to discuss the actual harvest realised. In addition to the surveys a great deal of qualitative research was undertaken. This included case studies and focus group interviews, as well as informal interviews conducted in shebeens.

What follows in the ethnography is my interpretation of the data. Where necessary translations of my respondents' statements are provided to give the ethnography some sense of "multi-vocality". Achieving this has been difficult. Firstly, my understanding of the Zulu language is not sufficient to make me satisfied that the translations

provided by interpreters always did justice to the thoughts and feelings expressed by the respondents. Secondly, (and this is also partly a consequence of my lack of command of the Zulu language) I did not feel that I always knew my respondents well enough to attempt to represent them as "acting, thinking, and feeling people rather than as generalised objects in my own primarily self-referential and academic discourse" (Jones 1990:3). Where the respondents appear in the text as uni-dimensional this is not a reflection on them as individuals but rather a reflection of the difficulty of capturing the experience of conducting research in a written form.

However, I feel that my exposure to the area and my interaction with the residents of *oBivane* has allowed me to build up "insider" insights regarding resource management. This contrasts with the "outsider" views that I have found to dominate official understanding of natural resource management in KwaZulu and upon which I elaborate in Chapter Two.

CHAPTER ONE END NOTES

1. Throughout the course of this thesis I use the term "homeland". My use of the term "homeland" in preference to "bantustan", "reserve", etc. does not imply any acceptance on my part of the ideology that has attempted to "present an image of these territories as economically viable, politically separate entities that are the only true and traditional 'homes' of the African people of South Africa" (Platzky & Walker 1985). I use the term because (a) it is a term that will be familiar to the reader and, (b) it was the term most often used during the course of the research by my respondents. Furthermore, I do not use the term "homeland" in quotation marks as it becomes distracting for the reader.

2. A precise definition of the term "rural" has proven to be an elusive goal (Pacione 1984) and I do not attempt my own definition here. For the purposes of this thesis I assume that the reader is aware of the characteristics implied by the notion of a "rural-urban" continuum.

3. Simdlangentsha is that area in northern Natal primarily located west of Paulpietersburg and east of the town of Pongola. The northern boundary is formed largely by the Transvaal boundary of the Pongola River. The area however incorporates part of the Transvaal as the southern boundary follows the Bivane River to its confluence with the Pongola and then follows the Pongola with the northern border subsequently determined by the Swaziland border.

4. The people of oBivane were defined as "black" in terms of the Population Registration Act of 1950. I utilise the term "black" only when it is necessary to contextualise the study.

5. I am grateful to Heston Phillips for his help with information on the Census figures.

6. The dam planned on the Bivane River was a R 200m project (1989 prices) and considered by engineers from the Department on Water Affairs and Forestry to be a medium sized dam of significant regional importance (personal communication with engineers).

7. I am grateful to Craig Schwabe of the HSRC's GIS unit for making the calculation.

8. I am grateful to Andrew Mann of the Natal Parks Board for his comments in this regard.

9. While this figure is interesting one should not read too much into it as households tend to slaughter cattle that are likely to die anyway. These deaths are not recorded as occurring as a result of natural mortality.

10. The employment situation has deteriorated markedly in the last number of months. In 1992 sections of the Hlobane and Coronation mines closed down.

11. Labour tenancy farms are characterised by families living on "white" farms who supply their labour to the landowner in return for the right to work portions of the land. Annual periods of labour service to the land owner ranged from about three to nine months. Six months appeared to be the norm for the farms in the Paulpietersburg district. The term "squatter" is a little more problematic. Following Morris (1982) and Harris (1984) I have used the term to cover families living on "white" or state-owned farms either as rent-tenants or as sharecroppers. Sharecroppers are families living on "white" farms who worked the land and shared with the land owner.

12. According to the chief recruiting officer in Vryheid, the labour office initially acted as the principal recruiting agent for the coal mines of northern Natal. It later expanded its recruiting focus to include the gold mines of the Witwatersrand and the Orange Free State.

13. This interview took place in October of 1990 approximately a month after the faction fighting took place.

14. According to a Mondi official the mass export of South American timber has severely damaged South Africa's timber and pulp export market. This has happened for a number of reasons. Firstly, the South American timber, cut from indigenous forests, is cheaper than South Africa's timber which is grown on commercial silviculture projects. Europe, Canada, and to an extent the United States, have reacted to this flood of South American timber by imposing quite severe environmental import restrictions and regulations on the way in which timber for import is grown and processed. This was done to protect the domestic markets in these areas and under pressure from the environmental lobby. According to the Mondi official, South African processing plants do not meet the requisite environmental conditions for export into these areas. The South African timber market has been severely affected. In addition, the depressed international pulp price, triggered by South American timber exports, has further affected profits. In fact Mondi currently exports paper (January 1993) at a loss of approximately R50.00 per ton. However, both Mondi and SAPPI are planning for expansion. According to the Mondi official this is in anticipation of the so-called GATT treaties taking effect. The GATT treaties will make it more difficult for countries to "artificially protect local industry under the guise of environmental protectionism".

CHAPTER TWO: THEORETICAL BACKGROUND

Introduction

Degradation of the resource base in many homeland rural areas of southern Africa is frequently noted in the body of literature on aspects of rural development (Bembridge 1984, Erskine 1985). Blaikie and Brookfield (1987:109) for example note that:

> Relative to its condition in pre-colonial times, the deterioration of vegetation and land in South Africa and adjacent countries, especially Lesotho, may well be the worst in the continent.

Conventional thinking locates much of the responsibility for this situation with adherence to so-called traditional values/practices/norms associated, by many development and environmental agents, with particular ethnic groups (Thorington-Smith *et al.* 1978; Ardington 1984; Natal Town and Regional Planning Commission 1983; Coertze 1986). These arguments are popular in certain academic circles and also form the key to an understanding of the problems of degradation for many of the homeland bureaucrats who deal directly or indirectly with issues of land and resource management.

The "traditional norms and values" argument

During the course of the study interviews were held with members of the KwaZulu Department of Agriculture and Forestry at regional planning level and at local extension level.

At the regional planning level, I interviewed the director responsible for the northern districts of KwaZulu and his immediate deputy, the regional agricultural engineer, and the senior regional planner. At a later stage I interviewed the regional agricultural director for the central districts of KwaZulu, his deputy and the agricultural engineer. During visits to Ulundi I interviewed a number of agricultural officials concerned with the central planning of agriculture and the officer responsible for the co-ordination of agricultural extension. At a local extension level, I interviewed the senior extension officer responsible for Simdlangentsha, his deputy and the extension officer under whom *oBivane* falls. I also interviewed the local livestock officer and some of the dipping inspectors.

It became evident during the interviews that the "traditional norms and values" model is firmly held by most officials at both levels. Education was commonly seen as the primary mechanism through which more effective/optimal local-level resource utilisation should be promoted. Responsibility for the degraded environment that characterises homeland areas was seen to rest with one or a combination of the following factors:

- poor farming methods that lead to soil erosion
- a tendency amongst rural residents to have large families which leads to overpopulation and ultimately greater pressure on the resource base
- the so-called cattle complex which motivates people to accumulate cattle for prestige purposes rather than to optimise the quality of cattle herds
- cattle accumulation which is seen to lead to overgrazing and this is seen to cause soil erosion
- a traditional system of land tenure which promotes problems associated with the commons as a form of land tenure

This list was compiled from interviews with members of the KwaZulu Department of Agriculture.

A central contention of this "traditional norms and values" argument is that there is little chance of sustainable development taking place without an intensive programme aimed at eradicating ignorance about what was termed "environmentally sound agricultural practices" by one of the officials that I interviewed. In KwaZulu one of the major roles of the agricultural extension officers is to encourage environmentally sound land and livestock management practices. In *oBivane* this takes place during very irregular visits by extension officers.[1]

This thesis will argue that the traditional norms and values model is severely flawed and obscures, rather than illuminates, the primary causes of resource degradation at the local level. An analysis of each of the factors that are said to comprise the essential elements leading to degradation will demonstrate the superficiality of the model. The rest of this chapter examines each of the elements that are said, by those favouring the conventional model, to impact on effective resource utilisation. Where the criticism is more empirical than theoretical I deal with the issues in the empirical chapter of the thesis.

The poor farming methods argument

The argument that poor farming methods, motivated largely by conservative/traditional adherence to outdated farming methods and by ignorance, directly contributes toward resource degradation can be shown to be simplistic.

The issues commonly raised in support of the argument (also spelled out during interviews with members of the KwaZulu Department of Agriculture) include the following:

- crops are grown in poor soils as farmers cannot distinguish between the best or most appropriate soil types, a practise which ultimately leads to soil erosion
- crops are grown on steep slopes and this renders the topsoil vulnerable to erosion
- farmers are unaware of the benefits of contour ploughing
- farmers are unwilling to use inputs, such as improved seed or fertiliser to improve yields and prefer to rely on intensive cropping of the same fields year after year, consequently fields are not allowed sufficient fallow periods to recover and so fertility declines

A great deal of the research in *oBivane* was directed towards exploring these issues. They were found to be largely fallacious. Where features of "poor land management" do occur, they occur not as a result of ignorance but because of the structural features that have forced local people to adapt these particular land management techniques as survival strategies[2]. These issues will be taken up in the more empirical chapters discussing land and resource management in *oBivane* itself.

The large families argument

According to Erskine (1988:1)

> There can be little doubt that one of the major human challenges facing southern Africa, now and in the foreseeable future, is the problem of human population on the land. In most of the less developed rural areas

> of the region, increases in population threaten what is already a precarious balance between natural resources and people.

The large families argument, articulated in the quotation above, contends that the high population growth rate in the rural areas impacts directly on the resource base. Certainly in many of the severely overcrowded homeland areas (Qwaqwa is a prime example) the land is stripped bare and the impression of high population density overloading the available resources is an overpowering one.

However, as Blaikie and Brookfield (1987:34) put it, the direct cause-effect relationship is not as neat or as straightforward as it first appears:

> Degradation can occur under rising population pressures on resources (PPR), under declining PPR, and without PPR. We do not accept that population pressure leads inevitably to land degradation, even though it may almost inevitably lead to extreme poverty when it occurs in underdeveloped, mainly rural, countries. The question of why management fails, or breaks down, is not answered so simply. Population is certainly one factor in the situation, and the present rapid growth of rural populations in many parts of the world makes it, in association with other causes, a critical factor. But "in association with other causes" is the essential part of that statement, for the other causes themselves may be sufficient.

Following Blaikie and Brookfield, it is arguable that in the South African context high population densities do not in themselves lead to environmental degradation. High population densities **in conjunction with** rural poverty, lack of access to resources, high degrees of labour migrancy among the able-bodied, and a deliberate state policy aimed at crowding people onto a static land base (thereby destroying indigenous systems of resource management) are a recipe for environmental disaster. Arguing that high population growth rates are in themselves the root cause of environmental degradation obscures many of the structural causes of degradation.[3] The structural

conditions of environmental degradation will be dealt with more explicitly in later chapters.

The cattle complex argument

Over the years a great deal has been written and said by anthropologists, ethnographers, development specialists, and others on the subject of the cattle complex.

The pioneering work on the cattle complex was done during the 1920s by an American anthropologist, Melville Herskovits. His work was not fieldwork-based but consisted of an analysis of material gathered by missionaries, travellers, anthropologists and others who had dealings and first hand experience with East African people. In an article in *American Anthropologist* entitled "The cattle complex in East Africa", Herskovits (1926:16) contended that:

> In East Africa, where currency in any form is absent, cattle constitutes an almost exclusive hall-mark of wealth. The subsistence economy of these tribes is based on agriculture, but the number of cattle owned by a man correlates highly with his position ... . It is of no consequence how much cultivated land or other goods a man possesses, for should he not have adequate resources in cattle, he can have no place of respect in society.

Later ethnographies, including Krige's (1950) *Social system of the Zulu*, utilised the notion of the cattle complex to emphasise the central ritual role occupied by cattle in the day-to-day life of many of the people. For Krige (1950:189) "the Zulu cannot even begin to conceive of existence without his beloved cattle" and (1950:188) "important as cattle are in the economic life of the tribe they would never be held in such high

regard or occupy the position they do in Zulu society, were it not for their enormous ritual value".

This emphasis on the non-utilitarian value of cattle has tended to obscure much of the economic rationality behind cattle accumulation behaviour and has encouraged the view that the rural "blacks" accumulate cattle to enhance their personal prestige. This view that these people are obsessed with cattle accumulation for the sake of enhancing prestige was firmly held by all the members of the KwaZulu Department of Agriculture who were interviewed.

As will be demonstrated in a later chapter, cattle accumulation in *oBivane* tends to be confined to a small sector of the population and for some of them accumulation is a means to an end and not an end in itself. Certainly there is little evidence of an obsession with cattle, as claimed by proponents of the cattle complex.

On a more general level, while cattle numbers have increased in KwaZulu (1 515 543 in 1988, up from 1 387 855 in 1984, according to the latest figures available from the Development Bank of Southern Africa) the percentage of rural households without cattle also seems to be increasing (Huggins 1984; Colvin 1984). For example, May and Peters (1984) show that 77% of households in Mbongolwane do not own cattle; Huggins (1984) shows that 70% of households in Siphondweni do not own cattle and AFRA (1991) shows that 64% of households in Cornfields do not own cattle. If Krige was correct and "the Zulu cannot even begin to conceive of existence without his beloved cattle", then life would appear to be meaningless for the majority of people in rural KwaZulu.

Interestingly, the arguments put forward concerning the inferiority of the Nguni breed of cattle and the reluctance of rural "blacks" to invest in superior breeds seems to have fallen away. There is increasing recognition of the value of Nguni cattle, and most of the officials from the KwaZulu Department of Agriculture with whom I conducted interviews agreed that the Nguni was probably the most appropriate breed for the *oBivane* conditions. Interviews with "white" farmers in the Vryheid area revealed that they too were investing in the Nguni breed.

The common property debate

In many senses the common property argument is the most difficult one to counter as it rests on an apparently rational assumption. Because of this attention is devoted, in this section, to some of the theoretical issues generated by the debate. The pertinent argument involves the notion of the "tragedy of the commons" popularised by Garret Hardin (1968). The general argument is that common resources will be systematically overexploited because those who utilise these resources reap immediate gain through exploitation, but suffer only the shared penalties of depletion. In Hardins' classic formulation (1968:1124):

> The rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another, and another... but this is the conclusion reached by each and every rational herdsman sharing a commons. Therein lies the tragedy. Each man is locked into a system that compels him to increase his herd without limit - in a world that is limited.

According to Hardin's argument, even though there are signs that the condition of the pasture will worsen with additional stocking, it is still rational for each herder to add more animals to his herd because he gains the full benefits of each additional animal while sharing the cost of over-grazing with the other herders.

According to McCay and Acheson (1987) this argument is considerably older than Hardin's popular thesis. They cite Aristotle as having raised the notion and William Lloyd (in an 1883 publication) as also contributing to the argument about the political economy of population, labour, and the Poor Laws. The argument has become a political tool utilised at the level of development planning by conservative and liberal planners and policy makers (see Thorrington-Smith *et al.* {1978} for examples of this).

The argument, particularly coupled in the African context with the so called cattle complex, has been utilised to explain the degradation of grazing lands and concomitant soil erosion. Consequently the combination of a reductionist argument (the cattle complex) with a classical economic argument (tragedy of the commons) is used to explain environmental degradation using the bounded context of the herder's own social milieu. Following this line of reasoning it is unnecessary to explore this explanation or to incorporate it into a wider set of political-economic factors.

As McCay and Acheson (1987) point out, some considerable difficulties lie with the general argument. The major flaws are that the commons argument, proposed as a model of pastoralist behaviour, presupposes that:

- there is an absence of any rules about the uses of the commons
- there is an absence of alternatives to exploitation of common grazing lands;
- common property is always of the open access variety
- the users are selfish and unrestricted by the social norms of the community
- the users are only interested in trying to maximise short-term gains
- the users have perfect information
- the resources are being used so intensively that degradation is inevitable.

Further, the individualistic bias of the tragedy of the commons argument often leads developers and other agents to underestimate the ability of people to co-operate in common-property situations. As McCay and Acheson (1987:7) point out, the exclusion of contextual factors leads to the mistake of assuming "that because people are engaged in common-property activity, they are involved in the tragedy of the commons". Perhaps the most pointed counter is, as Furubotn and Pejovich (1972:1139) put it, that

> property rights do not refer to relations between men and things, but, rather, to the sanctioned behavioral relations among men that arise from the existence of things and pertain to their use.

Hardin (1968) gives scant attention to the behavioral relations, and the regulating mechanisms arising out of these relations, that govern access to and limit utilisation of resources. Levieil and Orlove (1990) give empirical expression to this critique in their thoughtful analysis of control of aquatic resources in Lake Titicaca in Peru. Their analysis details a range of informal control mechanisms that are brought into play by the peasant communities who seek to protect this store of resources. Likewise, Lane (1992:88) shows that for the Barabaig pastoralists of Tanzania:

> their use of land is limited to the right of usufruct which permits use of common land only to the point where it is not denuded beyond recovery or to the disadvantage of other users. Overuse is regarded as destruction of the means on which everyone depends.

An important critique of the tragedy of the commons thesis is that it was initially not empirically based and has tended to be replicated and reconstituted independent of empirical evidence. Consequently there is a failure to distinguish between common property as a theoretical condition in which there are no relevant institutions (open access) and common property as a social institution (the commons). The assumption

that common property is the same thing as open access is historically open to debate (McCay & Acheson 1987:9).

Netting (1982:471), attempts to demonstrate that communal property resources are delineated following an assessment of their relative resource value:

> Resources that are needed by all, but whose productivity is diffuse rather than concentrated, low or unpredictable in yield, and low in unit value tend to be kept as communal property with relatively equal, although not unrestricted, access by group members. Smaller, easier divisible, and more highly productive areas may be owned and inherited by individuals.

Further, what is regarded as communal property may change with time. In the *oBivane* case the obvious example is changes in the allocation, to homesteads, of former grazing land for the purpose of cultivation. This happens because population growth within a fixed land base forces residents to acknowledge the necessity to reallocate communal property to individuals. This land then becomes part of the inherited property right complex. However land reallocation may restrict the grazing cycle and may increase the vulnerability of this land to degradation.

At a group interview with a number of farmers in *oBivane* this possibility was discussed. Consensus was reached that certain lands had been demarcated as grazing lands and were therefore communal property. Initially the respondents stated that people would not be allowed to construct households on this land or to appropriate any of the land for field cultivation. This was confirmed by the *induna* responsible for local allocation of land who was present at the discussion. It was however later acknowledged that grey areas do exist. These areas are on the fringes of the land allocated for agricultural and grazing purposes. The allocation of a household site would almost certainly be granted on grazing land if this land bordered on an area

that was predominantly residential. By the same token a household so established could make a claim for agricultural land on communal property as long as that land was adjacent to presently cultivated land. However, during the course of this study attitudes towards reallocating land in this fashion hardened. This is discussed in greater detail in later chapters.

The solution often cited for the tragedy of the commons problem is privatisation of communal resources (see Lyne & Nieuwoudt 1991; Baber & Nieuwoudt 1992). This is generally based on the disputed assumption that privatisation of resources promotes conservation (see Gilles & Jamtgaard 1982). In South Africa the environmental crisis in commercial agriculture, particularly in parts of the Western Transvaal and Orange Free State, is evidence that private ownership of land and conservation are not always mutually compatible (see Wilson and Ramphele 1989, Acocks 1988).

In the final analysis, the tragedy of the commons argument reduces the causes of environmental degradation and economic loss to the nature of property rights, instead of acknowledging the role of more complex features of the political economy. This thesis contends that this explanation, particularly in the South African instance, succeeds only in obscuring the wider context of degradation. That is, the creation of the apartheid homelands with their fixed and inadequate land base and the capitalist revolution within "white" agriculture rendered many farm labourers redundant and forced them to eke out a living in the homelands. As this was coupled to the influx control regulations, enforced for many years, a recipe for environmental disaster has been created.

It is arguable that an expansion of household numbers on a static land base rather than an increase in stock numbers is degrading the quality of communal areas through

the reduction of the grazing cycle. The average number of cattle per household may not really increase as the tragedy of the commons thesis suggests. Rather increases in cattle numbers may be due to increased household numbers on a static land base. Furthermore, as is suggested by the *oBivane* figures relating to the distribution of cattle between households (discussed in a later chapter), only a relatively small number of well-off households accumulate cattle. While it makes rational economic sense to invest in cattle, not all households can afford to accumulate cattle. Cattle must often be sold off to defray immediate household expenses. This is particularly necessary given the high cash costs of maintaining a household in instances of restricted access to agricultural resources and low wage labour returns.

What is therefore needed is a careful examination of the ways in which people understand and relate to their environment, and the way in which property rights and restrictions to access operate in specific cultural, ecological and political-economic settings. *oBivane* illustrates this very clearly as will be shown below. Even under extreme conditions people still try to control communal access to the use of resources. As this thesis demonstrates, particularly in the chapter on the *izinyanga* (medicinal healers) as specialist resource managers, that there are instances in *oBivane* where control over access to common property resources is enforced by particular interest groups, and steps are taken to prevent complete denudation.

Theoretical alternatives

Having pointed out that certain problems exist with conventional arguments (and this critique is pursued in later empirical chapters), attention is now turned to alternative analyses that question whether resource degradation is simply a function of the "traditional third world norms and values" that are held by many of the resource

managers. An overview of the major writings of people subscribing to this argument suggests that two levels of analysis exist. These are not discrete levels but are often utilised in tandem to inform each other and to create a single powerful analytical tool.

At the macro level, the alternative arguments relate the development of a situation of resource degradation to the prevailing political economy in which the "third world" is embroiled. That is, they seek to trace the causes of local and regional environmental degradation through wider regional, national, and international linkages. In so doing, environmental degradation is contextualised and shown to occur within a specific set of relations. Influential in developing aspects of this argument have been Caldwell (1971), Foster-Carter (1974), Bahro (1982), and Redclift (1984). These writers have concentrated on a critique of industrial, rather than only capitalist, society. The central claim is that industrialisation, particularly in the context of colonialism and imperialism, and with its emphasis on resource exploitation, consumes the available store of resources unequally. Consequently processes of underdevelopment and impoverishment are reproduced and entrenched. The central question that is addressed, in this analysis, concerns the need to investigate the causal links between local-level resources and management and depletion of these resources. According to Galtung (1988:139):

> Data on levels of depletion and pollution are indispensable. But more analysis is needed that could lead to a deeper understanding of why there is so much environmental deterioration. One form of presentation here would be in terms of economic cycles, showing very carefully who processes nature from where into products for the consumption by whom, and with what environmental effects for producers, consumers and others....The language of discourse should be flows on social and spatial maps, indicating clearly who are the producers and who the consumers of the deterioration.

While the macro-level of analysis is important to an integrated understanding of the process of resource degradation, it is the second level of analysis, which concentrates on a regional and local level analysis of the processes, with which this thesis is primarily concerned. At this level of analysis elements of the alternative arguments are further informed by insights generated by "insider" analyses of resource management. In this regard detailed ethnographies, and in particular the work undertaken by anthropologists, has been instrumental. This is in contrast to the conventional argument, which tends to be an "outsider" understanding of resource management. For the purposes of this thesis, the alternative arguments, at the second level of analysis, are broken down into five elements. The first four elements are presented in a theoretical overview and make up the rest of this chapter. The fifth element, an historical analysis, is the subject of the next chapter.

Survival and the utilisation of resources.

The first element is the contention that there is a largely impoverished rural population which is forced to make optimal utilisation of limited local resources in order to survive (see Timberlake 1984, Fischer 1987, Onimode 1989, Redclift 1992). This opposes the conventional model in that it moves away from an attempt to explain resource utilisation (and particularly degradation of the resource base) within the ambit of a world-view associated with particular ethnic groupings.

To illustrate this contention at a local level Blaikie (1985) has postulated a model that explains degradation in rural "third world" areas in terms of decision-making units.[4] Blaikie shows that the notion of "overpopulation leads to over-exploitation which leads to degradation" is too simplistic to adequately explain the complex process of degradation in many of these areas. At the basis of Blaikie's argument is the notion

that poverty and the environment are closely intertwined (see also Timberlake 1984). For Blaikie poor people live in, and suffer from, degraded environments because their poverty forces them to do so.

In Blaikie's model the decision-making unit/household enters those avenues of income-earning opportunities for which they have the requisite access qualifications. According to Blaikie the avenue with the highest perceived return on investment is selected first and maximum energy is expended in pursuing this avenue. The second most favourable is then selected and so on until all available resources are allocated or all avenues explored. The more marginal a household the fewer avenues it has open. An extremely marginal household may be reduced to exploiting very marginal resources. These resources are generally those within areas of high risk and low return.

For example, land pressure may force a household to cultivate a steep slope. Involved with this is the high risk of the crop being destroyed by rains and the slope being eroded. Alternatively the household may lack even the most minimal resources necessary to cultivate its own fields and may be forced into wage labour for better-off households. This would have the effect of widening the degree of differentiation between households, and as the better-off household extracts surplus value it places increasing pressure on the environment as the intensity of agricultural production increases.

Poverty and environmental degradation therefore reinforce each other, restrict the options of the poor, and form a trap from which escape is difficult. Blaikie (1985:103) calls this the "desperate ecocide" of the impoverished.

In the southern African situation, there is some evidence that the exploitative usage of the natural resources, resulting in degradation of the environment, is related not only to land pressure implicit in the homeland structure, but also to the fact that the impoverished often have to make optimal usage of the resources at hand in order to survive. It has been shown that access to a cash income from migrants and from pensions promotes investment in agricultural activities in the rural periphery (Murray 1981; Spiegel 1987). Implicit here is the notion that it is largely through direct or indirect participation in agricultural and related practices, that some of the available capital filters down to the most marginal sectors of the communities. Although this contributes to their survival it also increases pressures on the available natural resources.

Market linkages and wealth distribution

Linked to the element of "survival and utilisation of resources" outlined above but representing, as it were, the other side of the coin is the second of the elements in the conceptual framework: market linkages and wealth distribution. Economic differentiation is severe in many "third world" rural areas. Where wealth differentiation is particularly polarised and poverty is widespread, many impoverished families find it difficult to mobilise labour and other inputs for conservation purposes (see Little & Brokensha 1987). As will be shown below, different classes of producers have different production strategies and uses for the environment. Furthermore, these different classes of producers have access to a different array of resources and are linked to the market in a variety of ways. This makes collective efforts at resource management and conservation extremely problematic. As Little and Brokensha (1987:195) put it:

> The emergence of market value for range and forest products is likely to change local resource use. First, increased commercialisation attracts outside entrepreneurs who are likely to have a different set of interests and, in general, may be less concerned with resource conservation than the local community. Second, these individuals are often from groups with powerful linkages to the state and may, in some cases, be supported by state-enforced legislation. Thus, even where local regulations on natural resources exist, these outsiders are able to operate outside indigenous controls and, when necessary, they can evoke their ties to more powerful groups. Finally where the market value of the resource increases there are likely to be pressures from both outside interests and inside elites for the privatisation of lands and other resources.

In *oBivane* a marked degree of differentiation exists. Some of the residents who occupy the upper end of the scale of socio-economic differentiation are able to manipulate access to the local resource base and to take advantage of market linkages to benefit themselves materially. This has implications for the sustainability of the resource base. By the same token, outsiders have intruded into the area to take advantage of products of the resource base for which there is a market. This happens in the case of river sand, used in construction and building, and particularly in the instance of medicinal plants. These issues are dealt with at some length in later chapters.

Resettlement and the homeland resource base

> Detailed examination of the rural areas of South Africa, particularly in the reserves, reveals ... the extent to which the policy of apartheid, as systematically pursued by the National Party after 1948, can be held directly responsible for much of the ecological damage that the new South Africa will inherit and which must now be repaired (Wilson 1992:36).

The argument presented above, i.e. that the rural poor are forced to over-exploit available resources in order to survive, applies to many of the rural areas in the "third

world". However, another dimension to this argument is particularly applicable to the South African situation and this is the third element: resettlement.

It has long been held that the population pressure in the homelands of South Africa is instrumental in precipitating the environmental degradation that is characteristic of these areas (see Wilson 1992). Furthermore, it has been argued that the resettlement policies pursued by the South African state in the post 1948 period dramatically increased densities in the homeland areas and greatly contributed to the breakdown of sound environmental management practises (Kruger 1992, Ndhlovu 1992).

This argument holds true for the Simdlangentsha area of KwaZulu. More specifically it may be argued that the economic process (primarily the capitalist revolution within regional agriculture) has had an impact on displacing people from farm-wage residence and rendering them partially reliant on the ecological/agricultural base of rural homeland areas. It is this process that has increased the population of rural areas to an extent where the natural resources are chronically overburdened and rapidly deteriorating. However, two corollaries, both of which are crucial to an understanding of the current situation in *oBivane*, should be added.

The first corollary is that the state has not always acted in a coherent manner and that the impact of broader political and economic changes has not been uniformly felt at the local or even the regional level. The residents of *oBivane* are perhaps fortunate in that their relative isolation and the tardiness of the state in enforcing its policy of evicting labour tenants has resulted in the area not being as densely populated as many of the regional closer settlement areas, some of which have been created to accommodate those removed during specific resettlement actions.[5] Consequently

population pressure on resources is not as great in the research area as in many areas of KwaZulu.

The second corollary is that local-level political structures have reacted to outside pressures and have attempted to manage and resist certain of the impacts of resettlement. In *oBivane* there is historical evidence that there has been resistance from local-level political structures to immigration into the area. An informal and implicit (and increasingly formal and explicit) policy of restricted settlement has been pursued.

oBivane therefore provides an example of an area that has retained some autonomy from many of the catalysts to environmental degradation. The way in which this process unfolded is dealt with in the rest of this thesis.

Is the resource base degrading?

The fourth element of the alternative argument, is becoming increasingly popular in certain academic circles and questions whether degradation has taken place at all. This is implicit in Bell (1987) and Homewood and Rodgers (1987) who begin by questioning the validity of the statement that Africa's growing population is exceeding the ecological carrying capacity and that Africa is on the brink of ecological collapse. Bell (1987) is of the opinion that the reasons forwarded for the impending ecological collapse of Africa are not conclusive. He shows for example that the arguments for Sahelian desertification underplay the role of climatic change and overemphasise the role of local and regional resource management strategies as negative factors. Further, Bell regards the rapid increase in the population as indicative of the possibility that carrying capacities have not been exceeded. Bell also argues that base-line data for

carrying capacities in Africa tend to be based on points in time during which stock numbers were artificially low, e.g. in years following rinderpest epidemics.

Homewood and Rogers forward a similar argument but focus on the issue of pastoralism, carrying capacity, and overgrazing. They (1987:111) contend that:

> Although overstocking, overgrazing and desertification may be occurring, too often these processes are simply invoked without evidence to back up their existence, they have become a self-reinforcing concept, with counter arguments not infrequently suppressed for political reasons.

It is with regard to the notion of "carrying capacity" that their argument is particularly useful in *oBivane*. The Department of Water Affairs and Forestry (1989:12) categorically state that the area is overstocked and that the carrying capacity has been exceeded. In this case carrying capacity is treated as a fixed and immutable notion. Sanford (1982) has challenged this notion and suggests that neither average nor minimum stocking levels are necessarily appropriate in determining subsistence stocking levels. He compares the outcome of conservation management with stable stocking levels and opportunistic strategies that allow stock numbers to fluctuate with changing environmental conditions. He suggests (1982:34) that tracking environmental variation may

> in many cases be more efficient in terms of overall production for the subsistence pastoralist - a strategy that incorporates mobility, inevitable die-offs, and the capacity for both rapid recovery and exploitation of temporarily advantageous conditions.

Conclusion

This chapter has raised a number of issues, some of which are pursued in the empirical chapters presented later. The particular issues that will be dealt with include those of (a) appropriate local knowledge, (b) differential household access to

resources, and (c) the assumption that homeland agriculture and livestock management are necessarily environmentally destructive.

The following chapter examines the political economy of apartheid at a regional level identifying causal factors in the apparent collapse of the homeland environment. It is primarily a historical chapter and as such represents the fifth element in the conceptual framework which is essential for an understanding of the dynamics of resource management in *oBivane*.

CHAPTER TWO END NOTES

1. On the one occasion the extension officer delivered a lecture at the cattle dip during which he urged farmers to fence their fields and to reduce their cattle numbers. Very little dialogue took place and when the extension officer had finished his lecture he drove off. I do not however want to create the impression that the extension officers are completely unsympathetic towards the plight of the people that they serve. During the course of my interviews with them I was left with the impression that the officers are genuinely concerned about agriculture and the problems that surround it. They work under the constraints of an extremely bureaucratic system which binds them to a certain extension model irrespective of how they feel about it. The Simdlangentsha area is geographically very large and only two field extension officers service the area. In addition, they have to service this area on a very restricted travel budget.

2. There has been a tendency for the pendulum to swing the other way and to romanticise life in "pre-capitalist rural societies". This view of the "happy peasant" living in harmony with nature and utilising resources in a balanced and sustainable fashion is acclaimed in some academic circles (see Shiva 1992) and has been given popular expression in recent years by films such as "Dances with wolves". While there may be merits in aspects of the argument there seems to have been a tendency to ignore some of the more unpleasant aspects of life in these societies, e.g. famines, disease, intermittent warfare, etc.

3. For a full exposition of the population density/environmental degradation debate see Blaikie and Brookfield (1987). Certainly the argument seems to be problematic when one considers, as they do, that property/resource values increase with density and demand. As densities increase so do the economic returns on maintaining the land/resource base. This kind of market relationship comes into play in densely populated areas like Japan. However, in conjunction with poverty induced demands on the environment, the market relationship breaks down.

4. Blaikie and Brookfields (1987) argument is particularly attractive for many anthropologists as they argue that the household (with all its associated problems of definition and as unit of analysis) is the most logical and convenient decision making unit for the purposes of analysis.

5. In the Mthethwa tribal authority area oPuzane is the prime example. Opuzane was planned to accommodate people (primarily those from labour tenancy farms) who were regarded as subjects of the Mthethwa *inkosi*. A series of brief interviews were undertaken in Opuzane in March 1990. Of the 15 households contacted 12 were in Opuzane following evictions from tenancy farms. All twelve had been evicted between 1970 and 1978. Five of the households reported having been evicted from the Vryheid area, three from the Paulpietersburg area, two from the Piet Retief area, and one each from Louwsburg and Magudu. Of the remaining three households all reported having been resident in the wider Opuzane area originally but were removed to make way for the replanning of the settlement.

Bilanyoni (Frischgewaagd) is close to oPuzane and is one of the more notorious resettlement camps. It too was created largely by the accommodation of evicted labour tenants (see Surplus Peoples Project 1983 for a case study of the settlement).

CHAPTER THREE: HISTORICAL BACKGROUND

Introduction

This chapter has two broad objectives. Firstly, it seeks to identify some of the historical processes relevant to land issues in the region in which *oBivane* is located. This thesis argues that these processes have been major factors in demarcating the extent of, and the patterns of access to, the resource base. Secondly, this chapter provides a contextual background for the more detailed ethnographic discussions contained in the subsequent chapters.

The Mthethwa Tribal Authority (MTA) area as a whole[1], lying in the heartland of an extensive "white" farming region, was subjected to an influx of people, predominantly "redundant" and evicted farm workers, particularly in the 1970s and 1980s. This influx was motivated largely by transformations wrought in the South African countryside by the capitalization of agriculture. Consequently the restricted extent of the MTA, created by apartheid planning, has been forced to absorb more and more people. This has led to a breakdown of the indigenous resource management system and to rapid and severe environmental degradation in many parts of the Tribal Authority Area. But the crux of the matter is that this influx has not been uniform, even at a regional level, and that there has not been a uniform effect in all sectors of the Mthethwa Tribal Authority area. Further, this thesis contends that the process of capitalization of agriculture (particularly in parts of northern Natal) may not be complete and the cycles of eviction may not be at an end. One of the issues that is pursued in this chapter is the notion that analyses of homeland rural areas, in general, have tended to homogenise not only rural households, but also the totality of homeland rural areas.

Regional historical background

Little written material exists on the history of the *oBivane* region. According to Maylam (1986), up until the 18th century the wider area in which *oBivane* falls was almost certainly occupied by numerous relatively small chiefdoms. By the late 18th century, however, power blocs had begun to form through a process of political consolidation and competition for the control of major resources. To this end the Pongola Valley was a major attraction, both as a commercial and trade route from west to east and because of its fertility and suitability to the dominant mode of production (Maylam 1986). Cobbing (1991) is of the opinion that the Pongola River probably also acted as an incursion route along which Portuguese-initiated slave raids were carried out. According to Cobbing the area inland of the then Delagoa Bay and as far west as the present day Ermelo was severely disrupted by the slave trade, possibly from as early as the first years of the 19th century.

As has often been noted, the history of "black" people in South Africa after the coming of the first settlers from Europe is primarily one of dispossession. The northern parts of Natal provide no exception to this. The first indications of this process appear in an alliance between Mpande (1798-1872) and the Boers which saw the power of Dingane (1795-1840) finally broken and the Boers settled to the south of what became known as Zululand (Webb 1972). It was also at about this time that the ancestors of the present-day Mthethwa people migrated into the *oBivane* region.[2]

Those with the Mthethwa and Xaba *isibongo* presently living in the Vryheid, Paulpietersburg and Piet Retief districts appear to have emigrated from the lower Umfolosi area, where other people classified as part of the "Mthethwa Tribe" currently reside.[3] According to local residents migration into the area was initiated by the gift

of territory from Mpande to his paternal aunt, Queen Mkabyi ka Jama.[4] Shiwangu Mthethwa was appointed as the queen's *induna* in the area, and he established his followers near present-day Vryheid. If Cobbing (1991) is correct then the Mthethwa people would have migrated into an area severely disrupted, not by the effects of the so-called Difaqane, but by years of slave trading. This gift of land probably served a number of purposes for Mpande. In 1848 the Hlubi under Langalibalele formed a power bloc along the upper reaches of the Pongola River. Mpande sent a regiment into the area to quell the potential threat that the Hlubi were beginning to pose (Wright & Manson 1983). The Mthethwa migration probably formed an extension of this activity. In addition, between 1853 and 1854 Mpande launched a series of attacks against the Swazi (Maylam 1986). Again Cobbing (1991) raises the issue of the ongoing slave trade, this time with Mswati agents acting on behalf of Portuguese groups. The Mthethwa in the area possibly acted as a self-supporting defence unit that kept a watchful eye over the activity of the Swazi groupings.

According to oral history, the Mthethwa migrated into the Pongola/Bivane area when it was occupied by people of the Mbatha and Mangetehe tribes who apparently, fearing the wrath of Mpande, were prepared to pay tribute to Shiwangu. Shiwangu and his subjects formed what local people term the "Abaqulusini tribe". Shortly after settling in the area Shiwangu and his chief *induna*, Mtunzana Xaba, brought the Hlatswayo people who were resident at the confluence of the Bivane and the Pongolo rivers under their jurisdiction through force of arms.

It appears that some stability settled over the region for a number of years. That is, until the arrival of people of the Dlamini clan (under the leadership of Sidubela) who had fled Swaziland after backing the losing side in a succession struggle.[5] According to oral testimony Mpande gave the Dlamini land south of the Pongola River, but in

an area under the jurisdiction of *inkosi* Shiwangu of the Mthethwa, probably as further defence against Swazi incursions. According to oral testimony there was friction between the Dlamini and Mthethwa people from the time that they settled in the area.

While the various parties were establishing their power bases, "white" encroachment into the area was under way. Boer encroachment was initially from the Republic of Utrecht, established in terms of highly ambiguous grazing grants made by Mpande to the Boers in 1848. From 1852 the expansion came from the Zuid-Afrikaansche Republiek (ZAR) and posed a threat to Zulu interests from about 1860 (Maylam 1986; Pakenham 1991). This was, in part, a result of the unrest sown by the power struggle that ensued for the Zulu throne following the disintegration of Mpande's power in 1857. Cetshwayo, the dominant figure, demanded the handing over of his brother, Mtonga, who had sought refuge with the Boers in the Utrecht district. In return Cetshwayo offered the Boers a piece of land. The offer was accepted and Mtonga was handed back to Cetshwayo (van Zyl 1968).

The land exchange was confirmed with the signing of the treaty of Waaihoek which changed the borders between the ZAR and Zululand. The Boers claimed the area stretching from the confluence of the Pongola and Bivane rivers to Rorke's Drift, but from all accounts made little attempt to settle in the remote areas (including the research area), preferring to use it for seasonal grazing (Maylam 1986).

With an increasing population pressure on resources and increasingly reluctant recognition of the borders by the Zulu or groups allied to the Zulu, these frontier zones became areas of intense dispute, particularly from about 1870 (Davenport 1977). The Pongola area, which had been a border area slipping in and out of direct Boer control, was brought under more direct Zulu control with the ascension of Cetshwayo

to the throne (officially in 1872, but actually from about 1857). With the defeat of the Zulu in the Anglo-Zulu War of 1879, the entire Zulu kingdom was partitioned into 13 chiefdoms, with the area south of the Pongola River, and including areas occupied by many of the Mthethwa people, being given to the chief Hamu (Guy 1979).

Largely as a result of the contradictions built into this settlement, Zululand erupted into civil war in 1884 (Guy 1979). Spurred on by the internal strife, the Boers occupied much of Zululand, reclaiming the areas within the borders of the Pongola and Bivane rivers and declaring the area to the south of the Bivane and Pongola rivers the "New Republic". This apparently formed part of a land grant given by the newly crowned Dinizulu to the Boers who had helped him in his power struggle with Zibhebhu (Davenport 1977). By 1885 these areas had been surveyed and marked out as farms for "white" settlement. This survey and demarcation of farm boundaries is a critical event, for whilst it did not immediately result in the dispossession of the "black" residents' land, it would be accurate to say that mechanisms by which the dispossession would follow were set in place (Davenport 1977).

In 1888 the New Republic was incorporated into the ZAR. In 1902, after the Second Anglo-Boer War, the New Republic area (including the area between the Bivane and Pongolo rivers) was earmarked for re-incorporation into what had by then become the province of Natal and was therefore incorporated into the Union of South Africa as part of the province in 1910.

Historical background to land rights and tenure in the research area

To comprehend the present economic, spatial and demographic structure of the research area and its concomitant effects on patterns of resource management, it is

necessary to consider the manner in which capitalist agriculture took root in what became the wider northern Natal farming area. The general thrust of the argument presented here is that many of the farms in the area went through a series of stages of capitalization during the period from their demarcation in 1885 until the early 1950s when the Development Trust Act of 1936 (formerly the Native Trust Act) began to be stringently implemented. It will be argued that these stages were not uniform, but were rather a series of sporadic, broken and arrested developments. While many of the farms served initially as so-called "squatter farms", others served as "labour farms" for more established "white" farms in the Utrect, Vryheid and Piet Retief districts. While some of the farms were converted from squatter or labour farms to a system of labour tenancy it appears that others were not.[6]

Until the 1890s "blacks" in Natal appear to have been relatively successful peasant farmers (Bundy 1979). From the late 1890s with Natal's burgeoning urban centres, the expansion of the coal mines and the rise of intensive capitalist agriculture, deliberate strategies were contrived to destroy the agricultural base of the "black" peasantry (Harris 1984). In 1903 the Natal Lands Department received instructions not to accept bids for Crown Lands from "blacks" (Harris 1984). According to Harris (1984), in the same year rent for squatters in the Crown Lands was doubled in an attempt to drive squatters off these lands and release them into wage labour. As a further measure "white" farmers were given credit facilities denied to "black" peasant farmers (Harris 1984). While expanding urban markets increased the demand for food, and hence the price of agricultural land, the financial power of "white" farmers and industrial concerns ensured that "blacks" could be outbid for released Crown Land in most cases. These factors combined to promote capitalist controlled agriculture and wealthy individual "white" farmers often at the expense of "black" agricultural producers (Harris 1984).

Further state measures, initially driven by the Native Land Act of 1913 and then strengthened by the 1936 Native Trust and Land Act, gave impetus to the process of promoting direct settler control of the agricultural resource base. While many historians have tended to identify the 1913 Land Act as the turning point in relations between "blacks" and "whites" on the land, it has also been suggested that impetus towards proletarianisation of the "black" peasantry, particularly in northern Natal, was created by a more complex process of alliances between capital and the state in the years preceding and then following 1913 (Rich 1979; Keegan 1983; Harris 1984). In addition the state did not always act in a coherent manner and some regional differentiation (particularly when considering the northern Natal area) may be discerned.

It would however be true to say that the measures implemented in terms of the 1936 Native Trust and Land Act had a dramatic impact on the lives of many of the "black" people living in the rural areas. Drawing on the precedent set by the system of trust tenure, pioneered by Shepstonian policy in Natal, the Act created a legal body the South African Native Trust (SANT, later the SADT[7]) to own and administer the lands acquired for the so-called "African reserves". The act also marked out the initial geographical boundaries of the reserves and created a new category of reserve land, that of "released" land, i.e. released from the restrictions placed on the acquisition of land for "blacks" outside of the boundaries demarcated by the 1913 Land Act (Platzky & Walker 1985).

Whilst formally adding land to the 1913 parameters, the 1936 act also placed severe restrictions on the maximum amount of land available for "black" tenure. A category of "quota land", i.e. land not specifically identified but limited in terms of extent, that

could be acquired by the SANT, for "black" occupation was instituted. The historical demarcation of these reserve lands in northern Natal is discussed below.

The 1913 Land Act demarcated approximately 3 559 766 ha (none of it in the Vryheid/Paulpietersburg area) as "Native reserves". Following this, in 1916, the Natives Land Commission (the Beaumont Commission) was appointed in terms of Section Two of the Natives Land Act of 1913. The commission was required to investigate the delineation of the boundaries mooted in the 1913 Act and looked closely at settlement patterns in the eastern part of South Africa.

According to the Beaumont Commission the area of Paulpietersburg was divided into the following land tenure categories: Of a total of 394 298 acres, "white" owned and occupied land as well as Crown Land leased to "whites", made up approximately 291 486 acres (73,9%). Urban areas made up 9 577 acres (2,4 %) with 2 126 acres (0,5 %) of Crown Land reserved for special purposes. This left 91 109 acres (23,1 %) occupied by "blacks". Of this, 19 142 acres (4,8 %) was Crown Land occupied by "blacks", while the remaining 71 967 acres (18,3 %) was officially "white" owned land but unoccupied by the owners and occupied by "blacks" (Union of South Africa 1916).

The Beaumont Commission ended its deliberations by recommending that a block of 42 333 morgen in the Paulpietersburg area (including all of the present research area) be given over as "native" lands. This area was in the heart of a block of lands identified as "European farms but unoccupied by Europeans" or farms that were predominantly labour farms. Not surprisingly the recommendations of the Beaumont Commission were unpopular with many of the "white" farmers and a series of later commissions and investigations tended to pay heed to the farmer lobby. The

recommendations of the Beaumont Commission were generally scaled down to fragmented formalisation in the 1936 Native Trust Act (Harris 1984).

The 1936 Native Trust Act identified 335 718 ha of released land, over and above the allocation of the 1913 act, for incorporation into the reserves in Natal. Of this, 213 902 ha had already been acquired by "blacks", leaving 121 816 ha that was identified as released land and scheduled for incorporation into the reserves (parts of the Paulpietersburg SANT farms were identified here). A further 275 909 ha was allocated to the Natal reserves under the quota category. These lands could be acquired by the SANT outside of the scheduled areas, as long as the lands shared a common border with released or reserve land (Brookes & Hurwitz 1957). Some of the areas incorporated into the Paulpietersburg SANT farms were acquired in terms of this provision.

If one narrows the focus from macro state policy and the subsequent regional reaction to the impact of policy on the research area in question, the following becomes evident:[8]

- **Belemmerd**: This farm was granted to the Nederduitsche Hervormde Gemeente van Utrecht on 30 August 1899. It appears that the farm had never been permanently occupied by "whites" but had been used as a labour farm until 14 March 1952 when it was bought by the state and ceded to the SANT. It then officially became part of the 1936 Native Trust acquisition as part of the quota land that the SANT was entitled to purchase.

- **Pivaanspoort**: Originally two farms, Pivaanspoort 2 (Grant 246 of Utrecht) was bought by a Hendrik Buhrman on 8 August 1889. It appears that he was unable

(or unwilling) to meet the instalments on the farm since the farm was ceded to the Land and Agricultural Bank on 23 June 1914. Despite being offered for sale on auction it was never resold. In 1927 the farm was endorsed under Section 5 of Act No. 24 of 1913 (following the recommendations of the Beaumont Commission) and then consolidated with Pivaanspoort 1 (Grant 247 of Utrecht) which had remained unsold from the time of demarcation. Both farms were scheduled for incorporation into the SANT area of Paulpietersburg and Ngotshe in the Native Trust and Land Act No. 18 of 1936. On 4 August 1950 the farms were officially handed over to the SANT.

- **One of Schurwerand**: This farm remained unsold from its proclamation in 1881 until 1 January 1914 when it was sold at an auction to Johannes Nortjé for 781 pounds. As the Nortjé family were large land owners in the Vryheid/Ngotshe area it would appear that this farm was used as a labour farm until 1950 when it was purchased by the SANT as part of its quota acquisitions. Oral evidence from people in the area confirms this.

The position of the people of the "Abaqulusini tribe" in the years following 1885 to the imposition of the Native Trust Act in 1936 is summarised below.

It appears that in the years immediately following 1885 the people of Abaqulusini were geographically relatively stable in the face of early colonisation. Initially relatively sparse "white" settlement and the comparative isolation of the area from the major urban centres almost certainly gave the people of Abaqulusini some room to negotiate with the colonisers. It is almost certain that most of the farms in the area were farmed on a squatter basis and that the terms while probably not favourable were at least not

unbearable. This is borne out by oral testimony from some of the senior residents of the area.

The majority of the people of Abaqulusini, in the first half of this century, appear to have been either labour tenants who lived over a fairly wide geographic area that included parts of the present-day districts of Paulpietersburg, Piet Retief, Vryheid and Ngotshe. One of the major factors in the history of the people of Abaqulusini from the early part of the century appears to have been state attempts to destroy the labour tenancy system. An analysis of this process will show the manner in which the dispossession of the Abaqulusini people, in terms of access to land, has taken place.

The rise, fall, and tenacity of labour tenancy

The growth of the urban centres in the early part of this century and the opening up of the northern Natal coal mines were probably the major elements responsible for a change in what had until then probably been a quiet and fluid situation. These changes provided the major impetus in transforming the predominantly squatter system into a labour tenancy system. Moreover, these developments, seen against the background of state attempts to restrict "black" land possession and growing capitalist demands for labour, fuelled much of the rest of the process of "black" dispossession in northern Natal.

According to Morris (1982) an agricultural situation based on a system of labour tenancy arose out of the resource base available on, and management patterns typical of, farms in southern Africa in the 19th century. Most farms in the 19th century were large with areas of waste or unused land. Although some potential for commercial

agriculture existed, the conditions were not very favourable. Cash was scarce and most farmers did not use machinery; few farm labourers were paid in cash and only some were paid in kind.

A description of the conditions prevalent on the labour farms in the first half of this century may be gleaned from the following extract from the *Report of the Native Economic Commission 1930-1932* (Union of South Africa 1932:194).

> The labour tenant gets land to plough and grazing for his livestock. He gets a place and the material with which to build his kraal and a few farmers also plough their natives' land for them or allow them the use of their implements or oxen for that purpose. As a rule the Native gets no wages in cash or kind and is thus compelled to go to the towns and industrial centres in order to earn money to pay taxes and purchase clothing, blankets, agricultural implements, etc. A few farmers pay their servants cash wages but the vast majority do not. The general period of service is 6 months. In a comparatively few cases the period is 12 months service on the farm and 12 months off; sometimes 3 months service and then 3 months off. The periods of service are always in one spell. Usually the Native only gets the inferior lands.

The description, quoted in the "Addendum by Mr. Lucas", is that given by the native commissioner of the Utrecht district but, given that the Utrecht district has an almost identical colonial heritage and falls within a similar ecological zone with similar agricultural practices, the description is probably applicable to the Paulpietersburg area as well.

Morris (1982), heavily influenced by the "modes of production approach" and seeking to demonstrate a linear progression towards proletarianisation in rural "black" populations, contends that the labour tenancy system was a transition stage between the squatter system, which he sees as resembling a feudal mode of production, and a thoroughly capitalist agricultural system. Morris (1982:265) also states that in the sphere of developing capitalist agriculture the struggle was essentially for control of

the land and that the African peasants/farm labourers attached great importance to the land and vigorously resisted attempts to force them off:

> Their refusal to give up their access to (land), even if they had to concede their independent peasant or tribal hold over it, was crucial in the transformation of feudal rent paying "squatter peasants" into labour tenants. This took on the form of a refusal to work unless given land. A refusal that was so deeply ingrained that farmers even in the late 1930s were finding it impossible to secure agricultural labourers unless they granted land and grazing rights as well. Independent peasant producers and recent share croppers would rather face the insecurity of trekking with stock etc. than give up their rights to the land, and labour tenants en masse deserted districts if their land and grazing rights were threatened.

From the early years of the Union of South Africa the various fractions of capital competed to ensure their best possible advantage vis-a-vis labour provision. It was particularly in the post-1913 era that the state set about creating the legislative context to satisfy the demands that arose for labour provision. Both mining and large farming interests, although not united in their views on the direction that the reserve policy should take (particularly as regards the extent of the reserves), agreed on the necessity for the control and eventual abolition of squatting and labour tenancy as these systems tied up large amounts of labour (Harris 1984). According to Harris the "white" northern Natal farmers objected particularly strongly to this initiative because they were an isolated, undercapitalised and apparently marginalised farming group.

Attempts to control labour tenancy and squatting and to regulate "blacks" within the reserve areas took a number of forms. In the first place, as has been mentioned, land distribution was progressively segregated and concentrated. While Section 1 of the 1913 Land Act specifically made squatting by "blacks" on "white" owned land illegal, insufficient measures were built into the act to make it a practical weapon against squatting and it was only really applied in the Orange Free State (Surplus Peoples Project 1983; Harris 1984). Further, by increasing taxes on African males resident on

"white" owned farms but not rendering service to the farmer, the state hoped to severely curtail squatting. This was however only applicable in proclaimed areas, and as no areas were proclaimed until 1936 (when the act was superseded by the Native Trust and Land Act) it was never applied effectively.

Section 4 of the 1936 act deals specifically with squatting and labour tenancy. It made registration of sharecroppers and tenants compulsory, and effectively created a category of "extra labour tenants over and above the labour requirements of the farmer" or those tenants who were theoretically bound to be evicted from the farm. In addition, fees for registration of the tenants were designed to discourage continuation of tenancy.

According to Harris (1984) this legislation was seldom effective, and it was only after the Second World War that the real transformation of the South African countryside took place. As migrant African farm workers poured into the urban areas, district congresses of farmers repeatedly passed resolutions denouncing the labour tenant system which they saw as exacerbating the flow of labour to the mines, and thereby depopulating the countryside and creating overall shortages of labour in the rural areas (Morris 1982).

There was said to be only one solution to the perceived crisis which was that farm labour had to be a farm labourer and nothing else. The crisis came to a head immediately after the war. The South African Agricultural Union (SAAU) adopted a memorandum putting forward a Native Policy which they felt would, if implemented on a national scale, deal with the labour shortage crisis, and at the same time introduce the effective settlement of labour in agriculture. The most important and relevant provision (as quoted in Morris 1982:267) was the following:

> The memorandum proposes that the Native community be encouraged to advance in two main groups, agricultural and industrial, the former divided into subgroups consisting of farmers and farm labourers ... The labourers should be accommodated on European farms not as tenant or part time worker, but as full time employee.

To bring this about the SAAU urged the adoption of a number of state strategies that would control the "black" labour. These included the establishment of state labour bureaus under a uniform labour system. There was however a degree of conflict of interests between the various factions of farmers, particularly between the farmers from the regions of northern Natal and the SAAU (Harris 1984). The SAAU proposals fell largely on deaf ears, since the state under the United Party was reluctant to use coercive measures to implement farm labour legislation. This situation changed after 1948 with the coming to power of the National Party.

Following the National Party's election attempts to eradicate the labour tenancy system took the form of the imposition of new legislative measures and more effective implementation of existing measures. This process was given a boost during the early 1960s with the publication of the findings of the Du Toit Commission. The Du Toit Commission warned against the "beswarting van die platteland" (blackening of the countryside) and made recommendations for the "white" rural areas to be cleansed (see Davenport & Hunt 1974; Platzky & Walker 1985). For the state part of the problem was seen to be labour tenancy. As such the state made concerted efforts to eradicate labour tenancy during the 1960s. Consequently, in 1964 the Development Trust Act of 1936 was amended to allow the then Minister of Bantu Administration to limit labour tenancy in any district of the country by proclamation (Platzky & Walker 1985).

According to the Surplus People Project report on forced removals in Natal (Surplus Peoples Project 1983), labour tenancy had been abolished in 68 districts and over 11 000 people relocated off "white" farms in South Africa by 1968. As the proclamation of an area was only initiated on the request of the farmers themselves this process was almost entirely restricted to the Orange Free State and the Transvaal, where labour tenancy was not as deeply embedded as in Natal, and where the process of agricultural mechanisation had proceeded more rapidly (Maré 1980).

At this stage it appeared as if the general move towards the mechanisation of agriculture was well under way and the labour shortages that had plagued agriculture were not as acute. Consequently state attempts to eradicate labour tenancy were not as vigorously opposed by many of the "white" farmers as before. There were however pockets of undercapitalised farms and farms on which labour tenancy was suited to the particular local production methods. In Natal sectoral opposition to the eradication of labour tenancy came from both farmers and tenants. According to Platzky and Walker (1985:123):

> By January 1969 labour tenancy had been abolished throughout the Orange Free State and the Transvaal. The government announced that it intended to have the system phased out everywhere by 1970. In Natal, however, many of the farmers put up a strong rearguard fight against too rapid a phasing out of the system. 'The tenant system is still in operation because it is the only one many farmers can afford' said the president of the Natal Agricultural Union, in 1966 (Natal witness, 16 Sept 1966). In 1970 the Union identified the strong resistance of many labour tenants as a major reason for delaying the abolition of the system.

Therefore while attempts to cripple the tenancy system in the post-1948 era were successful in many areas of South Africa, this was not necessarily true for northern Natal. Harris (1984) confirms that northern Natal at that stage was characterised by a more determined resistance to these forces than in most parts of South Africa.

Morris (1982:250) concurs that "of all the provinces labour tenancy was the most deeply entrenched in Natal, especially in the Northern Districts".

Harris (1984) identifies a number of crucial characteristics that promoted the continued existence of the labour tenancy system in northern Natal despite state attempts to discourage it. Firstly, he states that the nature of "white" controlled capitalist agriculture in northern Natal made highly variable demands on labour. To this end the labour tenancy system was particularly suitable as labour could be assembled relatively cheaply at crucial periods. Secondly, he shows that farmers in these areas of Natal tended to be somewhat poorer than farmers in other Natal areas, and the labour tenancy system obviated the necessity of a transfer to the relatively expensive wage labour system, particularly in the face of severe competition for labour from the economically dominant regional mining interests.

Furthermore, a northern Natal farmer interviewed for this study pointed out that many of the farms in the area tend to be "patchy" in terms of land quality.[9] This would have meant that tenants could be kept on relatively unproductive land at little cost to the farmer. However the farmer also pointed out (as Morris {1983} does) that the tenancy system was often incapable of supporting the labourer's household. Generally the migration of young adults to the urban centres or to the mines to seek work was necessary to support rural households. This effectively removed the best labour from the farm. Another interview undertaken with a recently evicted labour tenant in Paulpietersburg highlighted this point. He stated that it was the refusal of his two sons, who were employed by an ESKOM power station, to work on the farm that caused the farmer to evict the whole household.

There may be an additional factor supporting the continuity of labour tenancy in the region. During the course of the research for this study it became apparent that farms in the region were, and still are, characterised by a high rate of so-called "absentee landlords" (and this tends to apply particularly to the "white" farms immediately adjacent to the research area). An absentee landlord is constrained in terms of his/her immediate control of the farm and almost always leaves it in the hands of a farm manager. Labour tenancy lowers the day to day cost of running the farm and leaves the manager with less financial control but greater social control. This situation may in the long term be beneficial for the absentee landlord.

In addition to the economic opposition to the eradication of tenancy there was some concern, articulated by officials, as to where the evicted people would be relocated (Harris 1984). By the early 1960s the acquisition of SADT land was only starting to gain momentum. Therefore, in Natal there was on the one hand a large "black" population resident on the "white" farms, and on the other hand a relatively small area to which evicted labour tenants could possibly be removed. Largely as a result of this opposition the eradication of labour tenancy in Natal appears to have lagged behind the other provinces. According to the NAU (as quoted in Surplus Peoples Project 1983:72) there were still some 400 000 labour tenants (workers and their families) living on "white" farms in Natal by 1970.

In 1970 the Minister of Bantu Administration declared that no new labour tenant contracts could be entered into after August 1970 and proclaimed the remaining areas of Natal (including Paulpietersburg and Vryheid) as restricted in terms of the continuation of labour tenancy. This meant that farmers could keep already registered tenants but only until their contracts, which were valid for three years, ran out (Surplus Peoples Project 1983).

According to the Surplus Peoples Project (1983) reports the state put pressure on local authorities to enforce worker registration requirements. This and the fact that the farm labour shortage in Natal was beginning to abate by the beginning of the 1970s was the death knell for much of the labour tenancy in Natal, although pockets continued to exist illegally until 1986 when tenancy was again legalised (Black Sash 1989). The Surplus Peoples Project (1983) state that the virtual eradication of labour tenancy pushed about 300 000 people off the "white" farms in Natal. Most of these were relocated into the SADT areas, severely overburdening the environment in many cases.

Tenancy and resettlement in the case of *oBivane*

The major implications that may be drawn from this chapter are threefold. Firstly, a historical process was set in motion in the 19th century whereby agricultural resources were concentrated in the hands of a few, dispossessing the majority and forcing them onto lands that became overcrowded. Secondly, the state deliberately contrived to destroy the system of labour tenancy, forcing people resident in otherwise "white areas" into areas in which the resource base was inadequate to support them and thereby forcing a sector of the people into wage labour. Thirdly, it is an over generalisation to say that the process and its effects have been uniform, as particular groups of people appear to have been left in possession of a relatively intact resource base.

On the one hand the destruction of much of the labour tenancy system has been at the heart of the process of dispossession and proletarianisation. On the other hand the fact that the system continued for a long time, and indeed still continues, in parts of northern Natal, has had implications for the pattern of social relationships in *oBivane*.

Although migration into *oBivane* by redundant labour tenants has been relatively steady, particularly since 1976, it has not approached the high rate of migration into the nearby closer settlement areas of *Bilanyoni* and *oPuzane* until very recently. While the high residential density in *Bilanyoni* and *oPuzane* is characteristic of many homeland areas the lower density in *oBivane* stands in contrast. An explanation for this situation is critical to an understanding of resource management in *oBivane*.

I offer two reasons for the density in *oBivane* remaining fairly low. Firstly, part of the explanation for the situation can be found in the way in which removals and resettlements were typically administered in northern Natal. It appears that both *Bilanyoni* and *oPuzane* (amongst other areas) were earmarked for resettlement of people removed from the surrounding farms. The mechanisms that promoted settlement in these areas were well known to the "white" farmers and authorities and the process of resettlement in the areas was well established. This emerged in an interview with members of the Land Affairs Department of the Natal Provincial Administration. It appears therefore that the migration that fuelled settlement in these areas came largely from official evictions from the wider region as opposed to the immediate Vryheid area. This situation is in contrast to that of the "evicted tenants" informally resettling in the *oBivane* area who typically come from the more immediately adjacent "white" farms. This was evident in the results of a survey carried out among 82 households in *oBivane*. The tenacity of much of the labour tenancy system on the farms adjacent to *oBivane* probably have had some effect in stemming the tide of potential immigration.

Secondly, and crucial to an understanding of influx into the area, has been the role of local-level control mechanisms. From about the 1870s (during the reign of *inkosi* Dukuzana Mthethwa) the *indlunkulu* (*inkosi's* homestead) has been located in the

oBivane area.[10] Although the present *inkosi's* father (Mandlakayise who was in power from 1927 - 1960) moved out of *oBivane*, the regents (Pelepele and Philemon who ruled from 1960 - 1982) were resident in *oBivane*. The present *inkosi* (Buz'etsheni) is resident in *oPuzane*.

Of particular importance was the reign of Philemon Mthethwa (1964 - 1982). Philemon as a younger brother of Mandlakayise acted as regent while Buz'etsheni was still considered a minor. According to Philemon's son, Johannes (who is still resident in the *oBivane* area), Philemon was very reluctant to allocate residential sites to those seeking access to the area. According to Johannes, a policy of restricted settlement was followed in the years of Philemon's reign. Johannes forwarded two reasons for this. Firstly, he remembers the period of the 1960s to 1980s as turbulent, with "people being chased from the farms". According to Johannes his father was concerned about protecting people in *oBivane* from the fighting that was apparently a frequent occurrence in those areas where people had been settled after leaving the farms.

Secondly, his father was concerned that the people who came from the farms would bring their cattle with them. Apparently Philemon was already concerned about the shortage of grazing in the area. It appears that he actively worked to keep potential immigrants out of the area. He was still able, however, to reap the rewards of an expanded tax base in the Mthethwa area as immigrants were free to settle in *oPuzane* which is also a part of the MTA area. The effects of this mass immigration are starkly evident in *oPuzane*. The area is extremely densely settled, degraded, and appears to be extremely poor.

The policy with regard to settlement appears to have changed in the post-1982 period when the present *inkosi* came to power. There is a feeling that with *inkosi* Buz'etsheni

located in the closer settlement area of *oPuzane,* the degree of protection afforded to *oBivane* from a mass influx into the area has decreased and the interest in the welfare of the people of *oBivane* has diminished. Some unhappiness was expressed, by respondents, during the course of the research about the ease with which the Tribal Authority grants access to immigrants. That a process of accelerated immigration into the area is taking place is supported by empirical evidence.

Firstly, aerial photographs of the *oBivane* area clearly show that there has been accelerated immigration into the area after 1982. A later chapter deals with an analysis of differences in settlement in the area between 1976 and 1989 using details from these aerial photographs.

Secondly, indications of immigration was evident during the course of the research but became starkly evident during a research visit to *oBivane* in April 1993.[11] Between the original survey for this study in January of 1990 and April of 1993 at least 19 new households have been established.

While the influx of people establishing new households was initially steady (i.e about three or four a year) seven new households were established between October 1992 and April 1993 (i.e. about one a month). In an area the size of *oBivane* this is tantamount to a flood and has prompted people in the area to take action. Two courses of action are being followed. Firstly, a deputation of the senior men in *oBivane* was sent to *inkosi* Mthethwa to plead with him not to allow more settlers into the area. According to respondents, *inkosi* Mthethwa was unsympathetic and told the deputation that as he was the chief he could allow people to settle wherever he chose. Although the people of *oBivane* apparently have little option but to accept this, they have embarked on a second course of action. The local committee concerned with

allocating agricultural land has decided that no more agricultural land is available and officially they are not allowing any of the new settlers to plough fields.

In conclusion it appears, from an historical analysis of the area, that it has largely been the process of disintegration of the labour tenancy system which has promoted the influx of large numbers of people into the wider Simdlangentsha area. The *oBivane* area was however protected from this process for a number of years. The ability of local interest groups to protect the *oBivane* resource base appears to have diminished after the reign of Philemon Mthethwa came to an end. This, in conjunction with signs of the continuing process of disintegration of the local labour tenancy system, probably means that excess labour from these farms will continue to move into the *oBivane* area for some time to come.[12]

CHAPTER THREE END NOTES

1. It should be borne in mind that *oBivane* is only a part of the MTA.

2. This was stated in the ethnographers notes on the Mthethwa Tribal Authority kept in the ethnographers offices, Department of the Chief Minister, Ulundi. The relevant Mthethwa Tribal Authority file is No. 13-511.

3. This was also evident from the files kept at Ulundi in the Ethnography Section. Here the files No. 13/511 and No. 13/513 on the "Mthethwa Tribe" are of particular importance.

4. Ten interviews were undertaken with people in the area who were generally considered to be the "guardians of oral history" or to have a good grasp of local history. The interviews were undertaken by myself and by a fieldwork assistant. During the interviews it became evident that, bar a few minor details, the history that was presented was mutually consistent. For the purposes of the thesis I have compressed the ten interviews into a single "story".

5. This was also evident from the files kept at Ulundi in the Ethnography Section. Here the file No. 13/518 on the "Dlamini Tribe" is of particular importance.

6. Labour farms are farms that are not settled by "white" owners and in this sense are distinct from labour tenant farms. Residents on the farm would be expected to provide labour to the farm owner, as with labour tenant farms, but would be expected to leave the labour farm and go and work on the owners other farm(s). Apparently the advantage of this system is that the farmer could keep the labour force separate from his residential farm until he needed them. This was apparently important when the "beswarting van die platteland" was seen as a major issue.

7. The SADT was disbanded during 1991-1992 and its functions broken up between a number of state and parastatal departments. These include the Department of Regional and Land Affairs, the Department of Environmental Affairs and the Agricultural Research Council.

8. The data on the farms was generated by consulting the relevant land-deed archives situated within the South African Archives in Pretoria and Pietermaritzburg.

9. I am grateful to Mr. D. Gehren for his comments in this regard.

10. In fact, according to respondents in the area, the site on which Dukuzana's household was located is the site formerly occupied by Philemon Mthethwa (acting as the *Inkosi's* regent between 1964 and 1982) and now occupied by Benson Mthethwa (oldest son of Philemon Mthethwa). The homestead remains an important site for ritual activity and a ceremony for the ancestors, attended by all senior members of the Mthethwa clan, is usually held annually. The tree under which tribal meetings were held remains an important meeting place.

11. I was not able to visit oBivane during the period September 1992 to March 1993. The number of new homesteads that were established in this period was striking.

12. A number of interviews with recently evicted or threatened tenants suggested that this is so. During the course of the research I interviewed a number of labour tenants who were visiting one of the popular sheebens in oBivane. Most of the respondents told me that they felt insecure on the labour tenant farms. Some had been given notice to quit or were expecting to receive notice at any time.

CHAPTER FOUR: HOUSEHOLDS AND SOCIO-ECONOMIC DIFFERENTIATION IN *oBIVANE*

Introduction

This chapter examines socio-economic indicators including household and demographic patterns, and the inter-household differentiation that is prevalent in *oBivane*. It sets the context for the interpretation and analysis of resource management patterns that follows in the next chapter. Use is made, in this chapter, of a series of aerial photographs of the area and of data generated by a homestead survey. The survey was undertaken during the first six months of 1990.

The surveyed homesteads were selected on a systematic basis by demarcating grids on aerial photographs and grouping homestead sites into batches. Grouping homesteads into batches of seven proved to be the most suitable and most efficient way in which to demarcate the homestead sites for the purposes of drawing up a sample. Homestead sites were grouped by proximity to each other and numbered from one to seven. Four household sites out of every seven were selected. This was done on the basis of selecting the homestead numbered one, skipping number two, selecting number three and so on. In all instances the respondent was either the homestead head, spouse of the homestead head, or another member of the homestead older than 18 years. In total 82 homesteads were surveyed. As this was, in the end, a household-based survey the notion of "household" is explored in more detail and the issues surrounding a definition of are fleshed out in the following section.

The notion of household

There is a lack of consensus in the anthropological and sociological literature as to the precise definition of the household. There does however seem to be agreement that the household concept is a useful tool, particularly as a unit of analysis. Although I do not wish to repeat the well-known debate around the household and household developmental cycles, there are a number of issues that need to be highlighted, particularly as they apply to an understanding of the household as a decision-making unit involved in natural resource management.

It is well recognised that the boundaries of families and households do not necessarily coincide. As Murray (1981) and others point out neither "household" nor "family" are readily definable and the two cannot be easily superimposed, especially in situations in which high rates of labour migrancy are prevalent.[1] Murray (1981) and Spiegel (1980) argue that under these conditions there is a category of people who belong to the household but are not always present (migrant workers). Similarly, there may be people present in the household who are not household members for, as Spiegel (1986) points out, the composition of the household often reflects a fluidity imposed by economic necessity.

In the analysis of the survey data which follows the concept of the household is used in a fairly broad and flexible manner. Whilst this may sound vague there are good reasons for adopting this approach. Webster (1988:6) argues that:

> The boundaries of households are ... notoriously difficult to define with any degree of finality. We are forced to recognise that the infinite variety we encounter is part of the process of change which adds vitality to our understanding, and any attempt to pin down too rigid a definition will surely lead to static and overly structural descriptions.

While a precise definition of household is not attempted it is clear from the research undertaken in *oBivane*, that households have some degree of empirical reality. Households are based partly on residential site, on a cohabiting population of fluctuating size, and on a tendency for certain kin to work co-operatively, to eat together and to pool resources. As such households are useful as units of analysis and it made sense to conduct a household based survey.

For the purposes of the survey, households were initially defined as those entities occupying a single demarcated residential site as visible on the ground or on the aerial photographs, these sites were used to draw up the survey sample. However, this definition became problematic during the course of the survey. The initial problems became apparent in the case of polygamous households. In *oBivane* households run by a second (or third wife) are almost invariably located on a separate residential site, although proximate to the "main" household. It became clear that separate residential sites falling in this category often functioned as single economic units and acknowledged a single household head. For example, in one instance a migrant worker remitted money to his senior wife along with instructions to her to share the money with the junior wife. Further, the two wives co-operated quite extensively with each other in managing their agricultural resources, by sharing equipment and pooling most of the resources that they had, including labour. In this and other similar cases the separate residential sites were considered, for the purposes of the survey, to be a single household. It is acknowledged that this conflation tends to be problematic in some instances where there was little co-operation between the spouses of a single man but is presented as the best compromise under the circumstances.

More complex, in terms of definition of household boundaries, were the two instances of agnatic groupings that were found to be co-operating extensively to manage their

resources. In both instances the various residential sites belonged to sets of brothers (three in one case and four in the other), and were not easily geographically distinguishable as separate households. For the purposes of the survey the household sites were nevertheless regarded as different entities because each had a separately defined household head.

Some understanding of these elements is essential for an analysis of the options open to, and constraints placed upon, households in making decisions about, and carrying out aspects of, resource management strategies. In this regard two points can be made.

Firstly, it is clear that certain households in *oBivane* function as units independent, for all practical purposes, from other similar units and are able to carry out the various tasks and functions involved in natural resource management. They generally have sufficient internal resources (capital, labour, equipment, cattle, etc.) and expertise to manage the external natural resources (communal and individually allocated) to which they have access. It can be argued that these households are at a particular stage in the developmental cycle and are sufficiently high on the socio-economic/ wealth ladder, however it is defined (see Ferguson 1992), to be reasonably self-sufficient. In these cases, households become relevant units of analysis in their own right both for the purposes of understanding household decision-making processes and with regard to resource management.

Secondly, there are cases of units co-operating, and intertwined, with a matrix of similar units. The relationship here may be symbiotic (as with some agnatic groupings that are made up of households that form a single resource management unit) or it may be exploitative (as with those households involved in certain share-cropping relationships). In these instances (particularly with the agnatic groupings) it becomes

difficult to understand processes of decision-making in terms of a narrowly defined household only. Aspects of this are dealt with in a later chapter.

Aerial photographs and a diachronic study of *oBivane* households and population

Introduction

An analytical tool that has become increasingly popular in geographic, geological and archaeological studies is the analysis of aerial photographs. Vogt (1974:166) points out that social activities produce characteristic patterns in the physical surroundings of human groups. In addition this method could, when used in conjunction with the other methods that go toward making up what is labelled "participant observation", be of immense practical value to social scientists in the analysis of certain trends.

For this study three sets of aerial photographs of *oBivane* were acquired. The acquisition of older photographs (May 1943), relatively recent photographs (July 1976), and some new photographs (June 1989) meant that a useful analyses of changes during the period 1943 to 1989 could be made. The relatively large scale of the photographs (1:9 000 for 1989, 1:10 000 for 1976 and 1:20 000 for 1943) and the generally good quality of the prints also made it possible to compare the photographs and to draw inferences from them. In this study the information on the aerial photographs was used in conjunction with the survey data in order to aggregate households.

The original households

The 1943 photographs show 12 residential sites on the farm Belemmerd and four residential sites on Pivaanspoort 2, but Pivaanspoort 1 appears to have been

unoccupied.[2] Schurwerand is excluded from this part of the study as there is not a complete set of photographs from the year 1943 for Schurwerand. These 16 residential sites are termed, for the purposes of this study, the "original sites". A comparison with the 1989 photographs shows that 14 of the 16 residential sites are presently occupied. The other two appear to have been abandoned in the interim period. Among the 14 sites presently occupied are ten that were included among the 82 households surveyed in 1990. An analysis of the ten households shows that they were among the more prominent in *oBivane*.

Firstly, among the households were some of *oBivane's* most politically prominent residents. According to respondents the original settlers in the wider *oBivane* area were the Mthethwas and the Xabas. Nine of the ten of the surveyed households present in the 1943 photographs belong to one of these two families. Seven of the households belong to residents with the Mthethwa *isibongo*[3], two are Xaba households, while one belongs to residents with the Mavuso *isibongo*. Among the Mthethwas are the newly appointed *induna* for *oBivane*, his deputy, and the tribal policeman for Belemmerd. Among the Xabas are the local member of the KwaZulu Legislative Assembly (and one of the two most prominent entrepreneurs in the area) and a highly respected senior elder. The Mavuso household belongs to the tribal policeman for Pivaanspoort. Furthermore, among the ten household heads are five of the seven members of the *oBivane* land allocation committee (see the following chapter for a discussion of this committee).

A brief history of the households shows that the rule of inheritance that dictates that it is the oldest son of the senior wife that inherits his fathers estate (with the homestead site included) usually applies. As far as could be established in nine of the ten cases the present occupant of the household is the senior son, or the senior

grandson, of the head of the household evident on the 1943 photographs.[4] Case study 1 illustrates the point.

Case study 1

Jackson is the household head of one of the homesteads that appears on the 1943 photographs. According to Jackson his great-grandfather arrived in the Vryheid/Paulpietersburg vicinity during the middle of the last century along with the first of the Mthethwa and Xaba settlers into the area. Although Jackson is not certain when the present homestead was founded he testifies that he was born on the site (i.e. about 1920). He says that the homestead was founded by his father who had moved from a "white" farm in the Vryheid area some years before. As the senior son of the senior wife (his mother was the sister of Mandlakayise Mthethwa who was *inkosi* from 1927 - 1960) Jackson inherited the homestead from his father upon his father death in 1968. This included the household fields.

Upon inheritance the household fields consisted of three alluvial fields near the Bivane River and a fourth field some 350m from the homestead. Jackson was granted two more fields upon taking a second wife in 1972. In addition Jackson has rights to a further field that belongs to his late brother's widow. According to Jackson his sister-in-law cannot manage the field and has given it to him rather than have it fall into disuse. In return Jackson gives his sister-in-law one bag in every eight that is harvested. All of Jackson's fields are located among the prime soils in *oBivane*. Jackson also inherited most of the family herd. Although he cannot remember exactly how many cattle and goats this was he says that they were numerous.

Jackson is widely regarded as one of the senior men in *oBivane*. When the Xaba families gather for meetings Jackson almost always officiates. Jackson is also a member of the influential land allocation committee responsible for allocating fields in *oBivane*. According to Jackson he

inherited this position from his father who also sat on the land allocation committee and was the senior Xaba *induna* to both *izinkosi* Pelepele and Philemon Mthethwa. Jackson says that he also acted as an *induna* to Philemon Mthethwa. In fact Jackson is married to one of Philemons' daughters.

Secondly, these ten original homesteads appear to be better-off, in some respects, than most of the other households in *oBivane*. This becomes particularly evident when the ten households are aggregated and compared to the other households in *oBivane*. Most striking is the way in which the distribution of fields, between the households in *oBivane*, seems to favour the original households.

In general agricultural fields were found to be very unevenly distributed amongst the 82 households that were surveyed (see table 3). The sample households had access to a total of 257 fields giving an average of 3,1 fields per household. Forty one (50%) of the households had two or fewer fields while the 25% of households with least fields had access to only 13,9% of the total number of fields. At the other extreme 11 households (13,4% of the sample) had 31,5% of the total number of fields. The survey also showed that few households in *oBivane* (2,4%) were without agricultural land at the time of the survey. This is fairly remarkable for a "homeland" rural area (see Baskin 1984). The households that reported that they had no access to fields were very recent arrivals and both, at the time of the survey, had made application to the local *induna* to have fields granted to them.

Nine of the ten original households surveyed were among the 25 households with four or more fields. The tenth is the residential site referred to in endnote 4. The average number of fields allocated to the ten original households was 5,3. In fact these ten

households had access to 21% of the total number of allocated fields recorded in the survey.

Table 3. No. of agricultural fields per household (N = 82)

No. of fields	No. of households	
	N	%
0	2	2,4
1	17	20,7
2	22	26,8
3	16	19,5
4	14	17,1
5-10	10	12,2
10+	1	1,2
Total	82	100,0

The agricultural fields discussed here exclude garden plots. Garden plots were deemed to be those areas within the boundaries of the homestead site or the small patches of land proximate to the homestead site. Fields were deemed to be the larger areas of land that were officially allocated to the homestead by the *inkosi* or his *induna*.

The initial intention in the survey was to ask respondents to estimate the size of their fields. This proved to be impossible as most respondents could not estimate their fields in terms of a standard measurement. In the end a measuring wheel was used to measure all of the fields allocated to 12 selected households. The vast majority of fields measured approximately 100m X 70 m (0.7ha). The present *induna*/tribal

policeman responsible for allocating the fields uses a standard paced measure when allocating new fields. According to respondents this paced measure has been in use for many years and probably accounts for the standard size of most of the fields. Utilising this standard measurement the average household was calculated to have access to approximately 2.2 ha. This exceeds the figure given by Erskine (1982) for the average holding in cultivated land in KwaZulu in the late 1970's of 1,5 ha per household. This is one of the ways in which *oBivane* may be shown to be different to other rural areas in KwaZulu.

Not only do the original households appear to have access to a greater number of fields than the other households but there is also evidence to suggest that these are among the most productive lands in *oBivane*. This emerges in an analysis of the sale of crops. Of the 82 households surveyed, 48 (58,5%) reported selling portions of their harvest (see table 4). Reported sale for the agricultural season 1989 - 1990 ranged from R 75 to R 3 600. The 37 household who could estimate their income from crop reported sales totalling R 28 139.

Among the ten original households all sold at least a portion of the harvest. Six of the nine households were able to give an indication of the monetary amount of the crops that were sold. They reported that they sold R13 600 worth of crops. This amount accounts for 48% of the total reported income from crop sales. However, this figure may be biased in that the households that pursue a strategy of maximising agricultural production for commercial sale are most likely to have kept an account of their income from sales. Their income may therefore be over-represented as a portion of total sales.

Table 4. Amount of crops sold by households in 1989/90

Amount of crops sold		
Amount in rands	No. of households	
	N	%
1-100	3	8,1
101-300	13	35,1
301-600	7	18,9
601-1200	8	21,6
1200-2000	3	8,1
2000+	3	8,1
Total	37	100,0

Furthermore, the figures given should be treated as indicators rather than as accurate assessments. Many of the households sold portions of their harvest on more than one occasion and had some difficulty in remembering exactly how much they sold. In addition prices received for the crops vary and people could not always remember how much they received per bag on particular occasions. There were a number of households that stated that they had sold crops, but could not give an indication of any of the amounts involved. Most of the indications given were in numbers of bags sold, which were then multiplied by the going rate per bag of maize in the area. Generally R25-R30 per bag was received depending on the size of the bag and the demand at the time of selling.

What is significant is that the figures on sale of agricultural produce point to the existence of some households that are able to operate small scale commercial farming

enterprises. Closer analysis shows that these households are largely grouped among the original households. There is also evidence suggesting that some of the households in this category are able to manipulate local regulations governing resource allocation to their advantage. This is dealt with in chapters that follow.

Households established during 1943-1976

The 1976 photographs show 33 residential sites on the farm Belemmerd and 25 on the farms Pivaanspoort 1 and 2. There are 16 residential sites on Schurwerand. This is an increase of 58 households. Forty of the 58 residential sites that appear in the 1976 photographs but not in the 1943 photographs were included in the survey as households. Among these are twenty eight households that proved to be those that had split from one of the original households or from a descendant of one of the original households. The other twelve were those households that had been evicted from farms in the area during the period 1943 to 1976. Eleven of these came from farms directly across the Bivane River. The twelfth household reported coming from a farm in the Ngotshe area. Case study two illustrates some of the dynamics.

Case study 2

> Amos is a 42 year old household head with two wives. He is currently unemployed having been retrenched from his place of employment in Germiston in November of 1989. Amos was born on the "white" farm Dipka (across the Bivane River from *oBivane*) but quit in 1974. According to Amos his decision to quit was motivated by the fact that the farmer objected to his working in the PWV area and not properly fulfilling his obligations as a labour tenant. Faced with having to give up his wage employment for unpaid farm service he decided to leave and establish himself in the *oBivane* area as he knew that there were

agricultural lands and grazing available in the Pivaanspoort area. As he regarded himself as a "subject" of the *inkosi* Mthethwa he approached the *inkosi* and was given permission to settle.

At present he shares his household with a married brother his sister-in-law and four unmarried sisters. He and his wives control access to four fields. Two of them are sizable fields located proximate to the homestead while the other two are relatively extensive alluvial fields near the banks of the Bivane River (approximated 1,5km from the household). Amos was granted two fields upon arriving in *oBivane* and a further one on taking a second wife. The fourth was allocated to his brother and sister-in-law who reside with him.

Amos has 22 cattle and sufficient oxen to operate two complete ploughing teams. Amos reported that he sold 40 bags of maize for R30.00 each during 1989 and at the time of the initial interview (April 1990) still had fairly substantial reserves in his *inqolobane* (grain storage hut). His crops were mostly sold to people from the neighbouring closer settlement areas. During a subsequent interviews (July 1991) it emerged that the harvest for 1990/91 was as good as the year before. The harvest in 1992 was not as good, primarily as a result of the drought.

Amos's married brother, although resident with him, works in the PWV area and remits enough to meet some of the household's subsistence needs. A son acquired employment in Paulpietersburg in 1991 and also remits.

Among those households that were established in the 1943 -1976 period are the remainder of those that may be regarded as belonging to prominent residents of *oBivane*. The remaining two members of the land allocation committee are among the residents of the 28 households that split from the 16 originals, as is the second of the areas prominent entrepreneurs. In addition, the individual generally regarded as the

most successful farmer in the area occupies one of the households established, during the period under discussion, by an immigrant.

An analysis of the land holdings and crop sales of these households (see Table 5) indicates that they are generally as well, or better, off than most other households in the area.

Table 5. Land holding and crop sale by households established in 1943-1976

	Households stemming from original (N=28)	Households that immigrated into *oBivane*: 1943-1976 (N=12)	Mean for survey (N=82)
Total no. of fields	116	44	257
Average no. of fields	4,1	3,6	3,1
No. that sold surplus	19	7	48
As % of category	67,8	58,3	58,5
Average amount of crops sold (rands)	531 (N=17)	790 (N=6)	760 (N=37)

The households that are generally worse off than the mean for the area tend to be found among those established in the post 1976 period. This period is discussed in the following section.

The households established between 1976 and 1989

By 1989 the total number of residential sites had increased to 65 on Belemmerd, to 39 on Pivaanspoort 1 and 2, and to 36 on Schurwerand. The survey sample included 32 of the 46 households that appear in the 1989 photographs, but not in the 1976 photographs. Residents were asked why they moved into *oBivane*. The breakdown of reasons given for being in the area are listed in figure 4.

Figure 4

Reasons for establishing new household in *oBivane*	Frequency
Forcibly evicted from white farm	**11**
Decided to relocate to area, being tired of white farmer	**4**
Not evicted from farm but farmer set conditions making it impossible to stay	**3**
Decided to relocate from another "homeland" area as agricultural land was available in research area	**2**
New homesteads set up by brother/son from core homestead	**9**
New homestead set up for second wife in polygamous household	**2**
Widow who moved back to father's site but set up own adjacent homestead	**1**
Total	**32**

The reasons listed in figure 4 help to account for the expansion in the number of households in the research area. As many as 18 of the 32 new households (56%) are

households that migrated into the area from the "white" farms. All of these households came from the immediately adjacent "white" farming area across the Bivane River. A further two households were households forced off "white" farms and initially relocated to the closer settlement areas, but were dissatisfied with conditions in these areas and after some negotiation with local interest groups were allowed to move into *oBivane* where the agricultural resource base was regarded as being better. Further, the appearance of 11 (34%) of the 32 households could be ascribed as to the natural process of population expansion and household fragmentation, while one of the households resulted from a dramatic change in domestic circumstances.

As was mentioned earlier some unhappiness was expressed, by some of the respondents, about the ease with which immigrants have been granted access to the area in recent years. It does seem, from the survey data, that there has been some relaxation of restrictions on access into the area. For example, most of the 18 households that were either evicted from "white" farms, or apparently chose to move off the farms, in the post 1976 period (15 of the 18 cases) were apparently given access to the area after *inkosi* Buz'ethseni came to power. This is not to say that immigrants were not granted access to the area in the years preceding 1982 - the household survey shows that they were. What is striking is that there seems to have been a growth in the rate of migration into *oBivane* in recent years.

In fact only five households in the survey reported moving into *oBivane* during the period 1970-1982 (the years of intensified farm tenant evictions in Natal). This further strengthens the contention, raised earlier, that there were mechanisms of control that restricted mass emigration into *oBivane* in a bid, by certain of the vested interests in the area, to retain control over access to the resource base.

Noticeable too, is the accelerated population increase for the period after 1976. If the estimates are accurate, while the period 1943 to 1976 saw an increase of approximately 4,1% per annum in population, the period 1976 to 1989 saw a significantly higher increase of 5,7%. It is acknowledged that these figures are estimates but they nonetheless indicate the extent of population increase (based on the number of residential sites in the area). The data are summarised in Table 6 below.

Table 6. Tabulated summary of demographic data obtained from aerial photographs.

Indicators	Year of photograph		
	1943	1976	1989
No. of household sites	16	58	104
Estimated no. of structures	87	337	718
Inferred population	152	589	1254

Households that arrived after 1976 appear to be generally worse off than those established prior to 1976 (see Table 7). In particular the households that were established by immigrants arriving after 1976 appear to be among the worst off. The following case studies illustrate some of these points.

Case study 3

> Vuyisile and her family were evicted from a "white" farm in 1986. Vuyisiles' husband, Sindane, is employed as a painter in Johannesburg. During 1989-90 she used part of the money that he remitted to her for agricultural purposes, primarily for seeds. As the household has only a single cow Vuyisile had to borrow a ploughing team from her grandfather (also resident in the area) but as she was unable to pay for a team, and thus could not negotiate for available cattle at the optimal

time, she started ploughing fairly late in the season. Vuyisile reports that she sold 5 bags for R30.00 each to people in a neighbouring settlement, but that she did not regard the sale as that of surplus crops. In fact she was forced to sell some of the crops to finance her childrens' education.

Given the little capital available to the household and relatively poor position vis-a-vis land and labour this may be regarded as a somewhat marginal household. The field that Vuyisile manages is quite small (0.65ha) and is located away form the fertile *isibomvu* lands. In addition the land is close to a series of gullies and is quite steep. In the 1990-91 season Vuyisile decided not to cultivate the field saying that the return on the money spent on the field during the previous season was not worth it.

Case study 4

Temba and his family were resident on a "white" farm across the Bivane River. Although they were not geographically on Mthethwa Tribal Authority land they regarded themselves as part of the Mthethwa Tribal Authority and Temba states that he had always recognised *inkosi* Mthethwa and his predecessors as his *inkosi*. In 1987 the "white" farmer instituted drastic cuts on the number of cattle people could keep on the farm. Temba says that rather than submit to the demands he approached *inkosi* Mthethwa for permission to occupy land in the *oBivane* area.

Temba was granted a household site and a single field in *oBivane*. According to Temba as he is new in the area and does not share a common *isibongo* with any of the more powerful families, he was discriminated against in terms of allocation of land. He has access only to a single field on fairly marginal agricultural land. According to Temba his total yield from his $\pm$ 0.8 ha field was 11 bags for the 1989/90 agricultural season. This was scarcely enough for subsistence purposes according to Temba.

In addition the field that Temba cultivates is located between two run off slopes. The land his field is on was formerly communal grazing land, and in fact his field is surrounded on most sides by the grazing area. According to Temba the proximity of the grazing area (often in an overgrazed state towards the end of winter) means that the water run-off from the grazed areas is quite high. This in turn means that the ploughed lands are vulnerable to erosion. Temba recognises this and has erected a small stone retaining wall in the centre of the run off that channels rainwater through his field. While the wall is fairly effective it demands almost constant maintenance during the rainy season.

It appears from the survey data that recently established households generally have fewer fields and that these fields tend to located on less productive soils. Some of the data is given in Table 7.

Table 7. Land holding and crop sale by households established in 1976-1989

	Households stemming from households established prior to 1976 (N=12)	Households that immigrated into *oBivane*: 1976-89 (N=20)	Mean for survey (N=82)
Total no. of fields	24	21	257
Average no. of fields	2,0	1,0	3,1
No. that sold surplus	4	6	48
As % of category	33,3	30,0	58,5
Average amount of crops sold (in rands) for 1989.	241 (N=4)	159 (N=4)	760 (N=37)

While it is true that newly established households frequently have to make do with more marginal fields, this is not universally true. Those households who have split from long established households sometimes inherit good fields as the case below illustrates.

Case study 5

> Aaron has recently established his household separate from his older brother. He and his wife work two fields. While one is little more than a household plot (izala) the other is a prime field lying near the banks of the Bivane river. The household plot was established on what was formally common grazing land, while the river field was inherited through Aaron's mother as part of her estate. Aarons' older brother and his uncle are members of the land allocation committee.

A lack of good land for allocation seems to be one the constraining factors in terms of household fragmentation. Recently married males often expressed a desire to establish an independent household site separate from the natal household site, but circumstances often dictated otherwise. These are spelt out below.

Firstly, establishing a new homestead involves some cash expenditure. A site must be "purchased" from the *inkosi*. Some building material and services must be paid for, and labour must be expended in gathering other materials. Not all newly married men have the cash available to establish their own homesteads. Secondly, with limited access to local employment and relatively high migrancy rates, households are often forced to spread labour resources across as wide a range of options as possible.

Consequently, it often makes sense for households to retain members and to pool resources and as such fragmentation is sometimes actively discouraged within the

household. In particular someone who constitutes the only (or one of a few) wage earner in a household would be strongly discouraged from establishing his own household. Thirdly, with agricultural land becoming scarce people run the risk of breaking away from the natal household but not being allocated agricultural fields.

Although household fragmentation does occur this is often dependent on a number of conditions being met. Firstly, the breakaway household should have at least one migrant/commuter member who is remitting regularly. Secondly, there should be a fairly well-established nuclear unit able to perform the required resource management tasks. That is, the couples tend to be older than "newly weds", with children of at least school going age. Thirdly, and increasingly important, a field should have been inherited by one of the breakaway members through the household property system.

Furthermore, where fragmentation does occur the tendency is often for the household member who is breaking away to endeavour to build his/her (generally his) homestead as close to the natal household as possible so as to be able to call on the available resources in the natal household when necessary. Petrus, who has recently established his household about 500m from his natal household (now owned by his older brother), put it like this[5]:

> I built my household in a place that is far away enough from my brother to show that I am my own man but is close enough to enable my wife, or myself, to call on them if we have trouble.

This tendency to settle close to one's relatives, in conjunction with the fact that some kin groups can trace their residence in *oBivane* back to at least the latter part of the previous century, has implications for settlement patterns on the farms in the research area.

As one would expect in an area where households are long established, a highly developed and intertwined kinship network exists among most of the households and agnatic groupings, although often dispersed across the farms in clusters, nevertheless tend to be resident in fairly close proximity. Closer analysis shows that the research area is largely dominated by two family groupings, i.e. the Mthethwa and the Xaba. Households with the Mthethwa *isibongo* (surname) are found on all of the farms in the research area (i.e. Belemmerd, Schurwerand and Pivaanspoort) but tend to be residentially grouped together on these farms. Those with the Xaba *isibongo* tend to be restricted to the farms of Belemmerd and Schurwerand. Some tendency towards a spatial concentration of other households that share a common *isibongo* is also noticeable. A second effect of this constrained fragmentation is that it has given rise to a range of households types in *oBivane* which is discussed in the following section.

Household composition, residential patterns, and demographic structure in *oBivane*

Household forms

One notable element of the survey (which included questions designed to elicit detailed data on demographic and household structure) was the wide range of household forms that exist in *oBivane*. Implicit in the data contained in figure 5 is that few households conform to the "normative" Western notion of households as nuclear families. Only 15 of the 82 cases (18,2% of the sample) could be classified as such. Moreover, 59 of the 82 households (60,9%) were more complex than simple two generational households. Of these, 50 households were three or four generational. Further, 26 of the households were extended laterally.

Figure 5

Classification of household types

Type	Frequency
One Generation	**2**
e.g. Household head (Hh) and spouse.	
Two Generation Simple	**21**
e.g. Hh + spouse + children; Widow + children.	
Two Generation Complex	**9**
e.g. Hh (single male) + sisters + nieces/nephews; Hh + spouses+ children + niece/nephew.	
Three Generation Simple	**30**
e.g. Hh + spouse + children + grandchildren; Divorcee + children + children -in - law + grandchildren. Hh + spouse + children + children -in - law + grandchildren.	
Three Generation Complex	**16**
e.g. Hh + children + children-in-law + grandchildren + sister. Hh + spouse + children + parent + aunt + brother + sister-in-law + niece/nephew.	
Four generation simple	**3**
e.g Hh + spouse + children + grandchildren + greatgrandchildren. Hh + spouse + children + grandchildren + parent.	
Four generation complex	**1**
e.g. Hh + spouse + children + children-in-law + grandchildren + parent + sister-in-law.	
TOTAL	**82**

Household size and residential density

A further finding that may be highlighted from the household survey data is that while the average household size was found to be 12,1 there was an extremely broad range of household sizes, with the smallest household consisting of a single member and the largest household consisting of 38 members. As some of the households in the survey (13 instances) were polygamous, what often appeared to be discrete but adjoining households on aerial photographs were, in most instances and for most purposes, single economic units. As was indicated earlier, these were defined as single households and it is these households that tend to account for many of the households sized in the upper range.

In terms of residential density the 82 households surveyed yielded a total of 570 dwelling structures/rooms, i.e. rooms utilised, according to the respondents, for cooking and sleeping. This figure realises an average of 6.9 huts per homestead although the median figure was found to be five. With a *de jure* sample population of 995 the dwelling room density is calculated as 1,75 persons per dwelling room.[6] This figure creates an impression of relatively uncrowded conditions, and reflects one dimension of the quality of life that is much better in *oBivane* than would typically be the case in an informal or formal township environment. Christie (1987) estimates that there is an average of 17 people per house in Soweto, with figures of ten persons per dwelling room not uncommon. A host of other studies report similar figures of overcrowding in South Africa's urban and peri-urban areas.

During focus group discussions and in-depth interviews held in *oBivane* respondents frequently commented that one of the things they liked most about living in *oBivane*

was that they could relatively easily and quite cheaply build extensions to the homestead to accommodate an expanding household. Anna put it like this:

> I would not wish to stay in the city. There people live like ants, one on top of the other. There is no space to move. There is no privacy. It is very difficult to find space to build and it is very expensive to build.

While the relatively low room density does create an impression of some comfort, this is not shared by all households in *oBivane*. Thus the 12 largest households accounted for 34% of all the structures recorded, but they accommodated only 23% of the population. Here the dwelling room density was only 1,17. At the other extreme the 12 smallest households accounted for only 6% of the structures but housed 9% of the population. Here the dwelling room density was calculated to be 2,63.

Narrowing the focus from the household size, density, and residential patterns to an analysis of the age and sex ratios of the area, a pattern typical of "homeland" areas emerges. The demographic profile is characterised by an imbalance in the ratio between permanently resident males and permanently resident females and by a high percentage of the population in the age group younger than ten years old.

Population profile

As was pointed out earlier migrant labourers and other absent individuals (e.g. scholars away at schools in other areas) who were considered, by the respondents, to be part of the household were deemed to be such for the purposes of the survey. The *de jure* sample population when split between males and females was 465 to 530 or 46,8% to 53,2%. While there is some imbalance between males and females this does not appear to be greatly significant. Table 8 below sets out the relative *de jure* age groupings by sex.

Two aspects of the population profile as set out in Table 8 are worth commenting upon. The first is that the biggest imbalance in the ratio between males and females occurs in the age group 0-10 (Figure 6 illustrates this graphically). A number of possible explanations are forwarded for this.

Table 8. *De jure* population (age groups by sex)

Age groups by sex: N = 995				
Age group	Number of males	Category as % of population	Number of females	Category as % of population
0-10	154	15,5	195	19,5
11-20	110	11,0	108	10,8
21-30	77	7,6	90	9,0
31-40	56	5,7	51	5,1
41-50	30	3,0	34	3,5
51-64	25	2,5	28	2,9
64+	13	1,4	24	2,4
Total	465	46,7	530	53,2

Firstly this may be a function of the naturally better survival rates of baby girls than of baby boys, particularly in areas where there is no easy access to medical care.[7] Secondly, a trend was noticed towards the fostering of females in the age category 6-15 years into the area. Six of the households in the sample had female relatives whose natal homestead was outside the area staying with them. Most of these young girls are apparently resident in the area to help with the household duties.[8] A follow-up study showed that in five of the six instances (six girls in all, as there were two in one of the

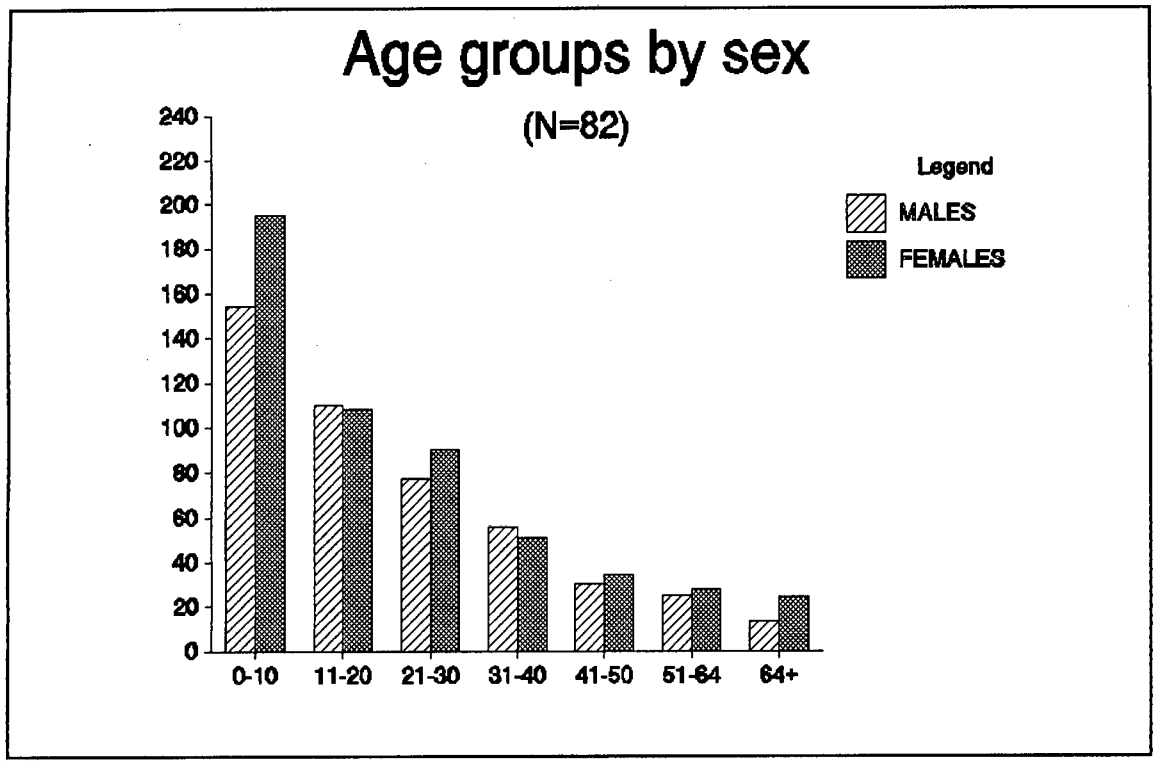

Figure 6 Age groups by sex (*de jure*)

households) the girls came from either *oPuzane* or *Bilanyoni*. Thirdly, and possibly the most likely explanation, is that the imbalance may be a function of the relatively small sample size for the purposes of demographic analysis.

Also noticeable in an analysis of the demographic structure in *oBivane* is that more than half of the population (56,8%) is below the age of 21 and more than a third (35%) are ten years or younger. This obviously has significant implications for the dependency ratios that are found in the area.

It is apparent from an analysis of settlement patterns and from the available demographic data that *oBivane* is, in many respects, typical of many homeland rural areas in southern Africa. In common with other rural areas many households are highly dependant on the wages remitted by migrant workers for their survival. This is discussed in greater detail in the following section.

Migrancy and cash income

Migrant workers are defined as those people the respondents regarded as members of the household, but who were periodically absent for work reasons, returning weekly, monthly, or for holidays. They were all people who were remitting wages at that stage, or who would remit part of their wages if they could, or who were expected by the respondents to remit wages but had not been doing so. That is, they were all regarded by the respondents as having an economic stake in the maintenance of the household.[9]

Among the 82 households, 117 male and 17 female migrant workers were identified and they accounted for approximately 13,3% of the total population, or 30,1% of the population in the category 20 years or older. Migrants made up 56,8% of the male age group 21-30 and 77,8% of the age group 31-40 as well as 58,3% of the age group 41-50. The most significant impact on the female population was in the age group 31-40. Migrants made up 12.5% of the female population in this category. Figure 7 illustrates the impact of migrancy on the resident population.

Of the 134 migrants, 46 were working in the Pretoria-Witwatersrand-Vereeniging area, predominantly on the mines. A breakdown elicits the following

- 34 were employed in the coal mines in northern Natal or south-eastern Transvaal regions
- 17 worked in Paulpietersburg or on the nearby large commercial farms
- 9 were employed in Durban
- 13 in various other parts of Natal

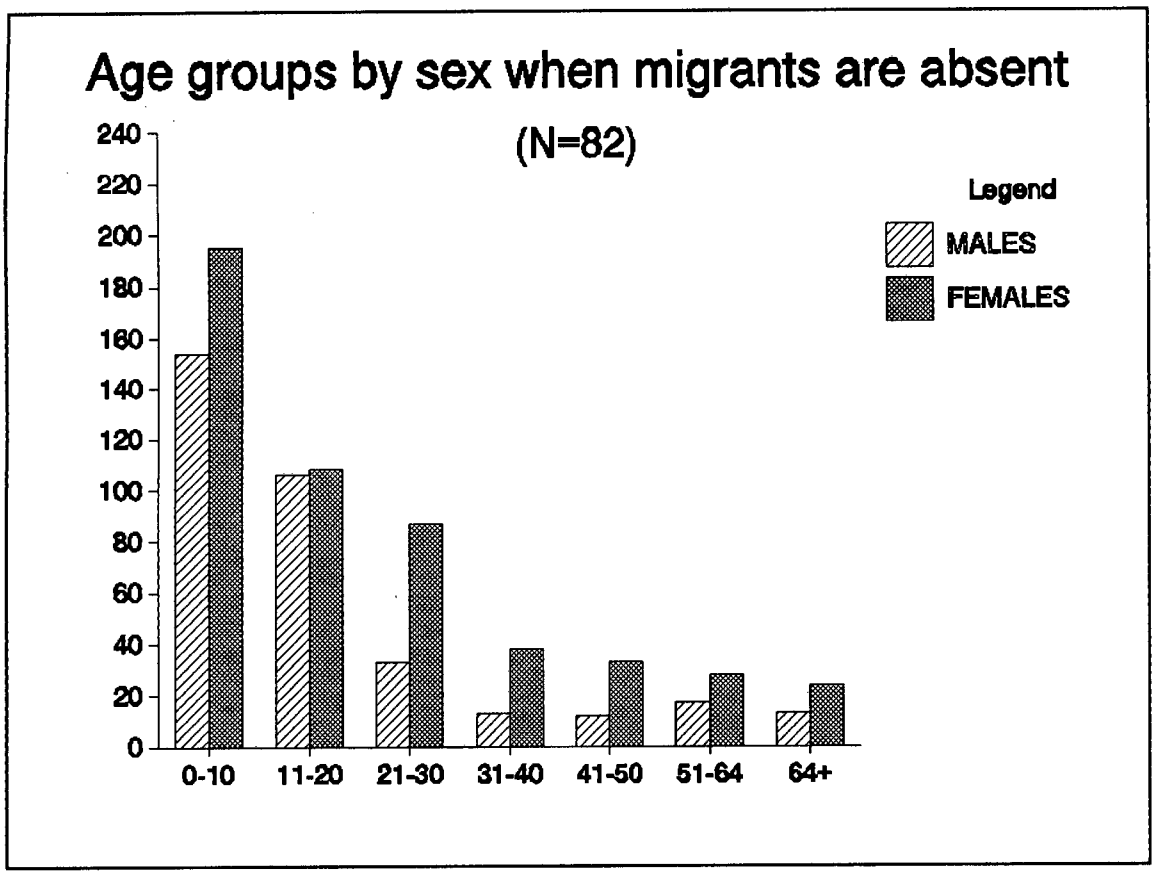

Figure 7 Age groups by sex when migrants are absent (*de facto*)

- 10 were employed in the Orange Free State (predominantly on Welkom gold mines) and in other parts of the Transvaal
- 5 were employed in various other parts of the country (including one in Qwaqwa).

During the survey respondents were asked to indicate the amounts of money that migrants remitted. While most were prepared to divulge the amounts, there are some doubts as to the accuracy of the data because not all the respondents were fully aware of the amounts remitted. Furthermore, some of the men (particularly those who return home weekly or monthly) prefer to bring the money home and spend it themselves on household items.

According to respondents migrants remitted monies ranging in amounts from R20,00 per month to R420,00 per month. The smaller amounts tended to be remitted by those

employed on the farms in the region. According to the data given by respondents the highest amounts remitted were generally by those employed in the mines. The single highest amount was reportedly remitted by a person employed as a chief security *induna* on a mine in Welkom. The second highest amount was remitted by a person employed as a laboratory assistant in a Midrand pharmaceutical company. From the data given by the respondents the average remittance by migrants may be calculated to be R137,65 per month.[10] The highest household income from migrant remittances was reported to be R1 150,00 per month. Four migrants contributed to this amount. These figures are for the first half of 1990.[11] From Table 9 it is clear that relatively few households have more than three members who are migrants.

Table 9. Number of migrant wage earners per household.

No. of wage-earning migrants per household	No. of households in this category
0	26
1	20
2	12
3	11
4	9
5	3
6	1

Networking appears to play a fairly important role in the acquisition of employment for people in the *oBivane* area. It is interesting to note that at least 18 migrants were reported, by respondents, to work in security or security- related occupations. This was particularly noticeable with one of the Welkom gold mines.

Some explanation for this may be that a prominent member of one of the more powerful agnatic groupings is the chief security *induna* at the gold mine and he apparently had secured the employment for six other residents from *oBivane* onto the mine. All those employed on the mine come from the Mthethwa family and can trace their ancestry back to one of the first households established in *oBivane*. The effects of this networking may account for some of differentiation in terms of the number of migrant workers in each household.

With the relatively low household incomes from migrant remittances, access to state or company pensions is often critical to household survival and pensioners are seen as an important resource with some competition for pensioners evident.[12] Access to pensions is particularly crucial for those households without any access to the wages of migrants. According to the survey data 22 households (26,8%) of the sample had at least one pensioner. Five of the 22 households had two pensioners.[13] During the course of the survey pensions were increased from a bi-monthly payout of R300 to a bi-monthly payout of R320. In these terms pensioners bring in more than the average monthly migrant remittances although pensioners, by virtue of the fact that they are resident in the household, are also a drain on household resources. Seven of the 26 households that had no migrant workers had at least one resident pensioner. Five of these were relatively small households (four of the female-headed household cases were widows) with unemployed children (all female with the exception of a single instance of a male) and grandchildren resident in the household.

Noticeable however is that there is some evidence for a correlation between household complexity and access to stable income. Among the single and two-generational households only one included a pensioner. The other pensioners tended to be resident in three- and four-generational households and tended to be resident in the larger

households. There were no instances of older couples living on their own although there was one male pensioner living on his own.

Generally most household income came from migrant remittances and pensions. The only other economic sphere that was found to be significant in terms of generating cash was the sale of crops. Other minor sources of income were from the sale of cattle, and of handicrafts, and from occasional work for other residents of *oBivane* or in the nearby settlements.

In many respects *oBivane* is typical of South African homeland areas. The area is characterised by high migrancy rates, and a dependency on remittances and pensions. However the area is characterised by features which make it different. Foremost is the access enjoyed, by most residents to a productive land base. Landlessness, until recently was not a feature. Furthermore as will be shown in a later chapter, average cattle holdings are high and the natural cattle mortality rate appears to be low.

Having looked at the survey and related data in some detail a number of points are evident. Firstly, a broad range of households types and sizes are evident in *oBivane.* Secondly, some of the households are well established in the area while others are fairly recently established. Thirdly, some socio-economic differentiation is evident, particularly with regard to access to resources, and this differentiation bears some relationship to household size and type, and to length of residence in the area.

CHAPTER FOUR END NOTES

1. Following in part from this is the realisation that, according to Spiegel, household differentiation is best described by utilisation of an interaction between class and developmental cycle. Murray (1987{b}:237) contends that given the "extreme demographic instability ... diverse and complex strategies of survival ... (and) episodes of vicious harassment ... which reflect the acute vulnerability of South Africa's marginalized internal refugees to direct political repression by the Bantustan authorities ... it would be implausible to construct even several 'typical' development cycles ... as it would involve imputing to the Bantustan a degree of demographic stability and a degree of homogeneity of material circumstances which is entirely vitiated by the evidence available."

Whilst agreeing with Murray (1987{b}) that the homeland situation creates a context in which it is difficult to speak of typicalities of the household development cycle(s) this may not be universally true. If we take his point to its logical extreme then households become purely reflexive constituents whose primary building block is either convenience or constraint. The elements mentioned are undoubtedly important in determining the degree of variation between households but it is overly simplistic to assume that household composition does not in some way conform to a process that resembles generational development. Further Murray (1987 {a}&{b}) tends to treat the homeland condition as a homogeneity and allows little room for regional differentiation. Certainly in the oBivane area households reflect a degree of stability that is indicative of a development cycle.

2. The definition of "residential site" differs slightly from the definition of the "household" as it is impossible to read numbers of households off from the numbers of residential sites that were identified in the photographs. This applies particularly to the 1943 and 1976 photographs as it is impossible to know which are the separate residential sites of a single polygamous household. The 1989 data has been treated similarly in order to make it compatible with the first two sets of photographs.

3. *isiBongo* literally means a praise-name (Bryant 1949:435). It has, however, become synonymous with a surname or family name in Zulu speaking areas. The practise of name avoidance sometimes occurs and alternatives to the commonly used *isibongo* are occasionally used. In *oBivane* this applies particularly when people with close ties to the chiefly clans - Mthethwa and Dlamini are greeted. *Nyambose* is often used for Mthethwa and *Nkosi* for Dlamini.

4. In the tenth case the household was apparently abandoned in about 1955 when the household head moved, with his family, to Johannesburg. The household does not appear on the 1976 photograph. The household was re-established in about 1988, on approximately the same site by his daughter and her husband. Their re-immigration followed the husband's retirement from his place of employment in Pretoria. Apparently the household lost their original fields but were reallocated two other fields shortly after moving back to the area.

5. It should be noted that in Aaron's case he fulfilled all of the requirements cited. That is, he was employed, he inherited a field from his mother, and his family was well established.

6. Following what has now become relatively standard sociological practice I have termed the population with the migrants included in the demographic statistics the de jure population.

7. This was suggested to me by members of the demography section at the Human Sciences Research Council who felt that there is some evidence for this in the available demographic data. For some reason baby girls have a better survival rate than boys. This is particularly noticeable in areas characterised by marginal access to formal health care. Further, the village calendar which is kept for the purposes of the *oBivane* Village Project by a resident of *oBivane* lists nine instances of infants dying within approximately a month of birth for the period 1991. Seven of the nine were males. It should be noted that the events recorded in the village calendar are for a population wider than that demarcated for the purposes of this research and that the data contained in the village calendar, although interesting for the insights it provides into life in *oBivane*, is not collected in a highly structured manner.

8. It should be pointed out that, as far as I could determine, the younger girls tended to be present in the fostering household to relieve the burden in their natal households rather than as an exploited source of child labour.

9. I have excluded from this definition those who are away looking for work but who were not currently employed at the time of the survey. For the purposes of the survey they were considered to be de facto members of the household who were temporarily absent. Most of the people in this category are present in *oBivane* for a good deal, if not most, of the year. The trend is apparently for people to look for work for relatively short periods (three to four weeks appears to be the norm) then to return home until they hear of work opportunities or can afford to go and look for work again. Few people were absent looking for work during peak labour demand periods.

10. This figure includes those migrants who were not remitting money at the time of the survey although they had been identified by the respondent as being expected to remit. There were eight such cases amongst the 134 migrants.

11. This figure excludes those migrants that the respondents identified as supposed to be remitting money, but who were not doing so at the time of the survey.

12. During the course of interviews the notion of the pensioner as a valuable resource and asset was frequently mentioned by respondents.

13. The survey showed that only 27 of the 41 people who were eligible for a pension were receiving pensions. Of the remaining 14, five had applied for pensions but had not yet started receiving them while the other nine had not yet applied. As one of the initial steps in the *oBivane* Village Project these people were identified and taken through the bureaucratic process of obtaining the necessary documentation so as to be able to apply for pensions. As a result more of the households sampled now receive pensions than did during the survey.

CHAPTER FIVE: AGRICULTURAL RESOURCE MANAGEMENT IN *oBIVANE*

Introduction

Having considered the historical, political, physical and socio-economic background to conditions in *oBivane* attention is now focused on aspects of resource management analyzed at a household level. This chapter concentrates primarily on agricultural activity as this is by far the most striking feature of resource management in *oBivane*.

This chapter begins by looking at the context in which agriculture takes place and then examines management against the background of local knowledge. The discussion shows that contrary to the "ignorant farmer/traditional norms" argument outlined in Chapter Two, people in *oBivane* possess a great deal of appropriate and relevant knowledge about resource management practices. Following this analysis it will also be shown that while people in *oBivane* attempt to manage the resource base in a sustainable way there are indications that some of the facets of the indigenous management system may be breaking down.

Introduction to agricultural resource management in oBivane

In order to survive human societies require energy and material from their environment. At a basic biological level, these needs are sought through the exploitation of other organic entities: plants and animals. As a general rule, and *oBivane* is no exception, societies utilise agricultural means through which to channel much of the environmental energy and matter into a fashion suitable for human consumption. This agricultural activity necessarily implies a pattern of organisation. Essentially the pattern has both a physical dimension (visible through the geographical

cues that characterise agricultural activity) as well as a social dimension that gives rise to ordered human activity.

As demonstrated in the chapter on the ecology of the area, *oBivane* has a high agricultural potential. Further evidence of this potential comes from a soil survey done in the region by the Department of Water Affairs and Forestry (1989) which analyzed all the land in the area below the 760m contour line (the most fertile part of the valley).[1] The distribution of land below the 760m contour in the research area by agricultural class is listed in figure 8 below:

Figure 8

Land type	No of ha in land type	% of land in area
Class I:	212,6ha	(30,4%)
Class II:	48,8ha	(6,9%)
Class III	32,9ha	(4,7%)
Class IV	23,8ha	(3,4%)
Class V	60,9ha	(8,7%)
Class VI	91,2ha	(13,0%)
Class VII	137,2ha	(19,6%)
Class VIII	92,9ha	(13,3%)

According to the soil analysis, Class I agricultural land has a maize output value of 1,6 tons per hectare without the use of fertiliser, Class II has an output value of 1,0 tons per hectare and the values of Classes III and IV are 0,8 and 0,4 tons per hectare respectively. Classes V - VII are regarded as lands fit only for grazing and Class VIII is considered marginal grazing land.

Output value can be quantified in financial terms. Given that the 1990 producer value of maize was about R300,00 per ton, Class I land would realize about R480,00 per hectare under maize, Class II about R300,00 per hectare and Classes III and IV about R240,00 and R120,00 respectively. Given that there is approximately 250 hectares under cultivation in *oBivane*, and that people get approximately 1,5 tons per hectare[2], although some of the better-off households get well over 2 tons per hectare from the alluvial fields (as most of the land in the area is Class I, and many people use fertiliser), the total crop value if converted to rands would amount to about R112 500,00. With production costs estimated at R150,00 per hectare, the total profit for the area would be in the region of R75 000,00.

Turning briefly to the organisational dimension of agriculture it may be noted that each household generally plants at least one field and a homestead garden. Homestead gardens are smaller plots cultivated within the immediate vicinity of the homestead. These plots are generally ploughed and planted from about August onwards. The main fields are ploughed after the first intensive rains, or when the soil is damp enough after a period of light, ongoing rain (in 1989 this was in early November, in 1990 in late November, in 1991 in October, and in 1992 in December). Most people who have more than one field divide their ploughing between fields. Even among those households that have only one field it is common for households to initially plough only a portion of the field and then to plough the rest later.

This is a major form of risk management adopted by many of the people in *oBivane*. Although the initial ploughing is done after the first rains, people generally wait until the planted crop has taken root and is sprouting before ploughing the second or subsequent fields. This has the advantage of ensuring that even if heavy rains wash away their crops immediately after the first planting, the entire agricultural effort is

not destroyed. Some of the respondents felt that ploughing and planting could be undertaken until early January, although this is very risky as the farmers run the risk of the crops withering due to the heat and lack of rain.

While maize (*ummbila*) is the major subsistence crop it is by no means the only crop that is grown. Beans, potatoes, some vegetables and ground nuts are also grown. Cannabis (*intsangu*) is also grown as a cash crop by some people. It is generally intercropped into fields of maize to make detection by police difficult.

Most people use their own cattle to plough their fields, although some hire either tractors or cattle teams from other households. The KwaZulu member of the legislative assembly for the Simdlangentsha area keeps a homestead in *oBivane*, and he owns a tractor. Although his fields enjoy priority in terms of ploughing, with members of his immediate family being next in line, other residents of the area also make use of the tractor. The charge for hire of the tractor is R100,00 for approximately five hours of ploughing. A second homestead, that belonging to the store owner, also has a tractor. All homesteads interviewed during the course of the research had their own plough. Homesteads with insufficient cattle to plough their fields and insufficient means to hire tractors sometimes hire cattle. The hiring of cattle to plough a field is generally an indication that the household is extremely marginal. The fact that these households are in the minority and that the overall supply of cattle in the area is high means that fees asked for the hire of cattle are relatively low compared to other parts of KwaZulu (see Derman & Poultney 1983). Thus a cattle owner will ask R10,00 for hiring out a team of cattle for a ploughing day. The lessee is however expected to provide the plough and the necessary labour.

Planting is generally done by means of implements drawn by oxen. According to respondents it is seldom necessary to hire people to form ploughing or planting teams as practically all households have sufficient people to manage ploughing and planting resources for themselves. Planting is not a labour intensive activity, particularly when compared to weeding. Weeding is an ongoing activity (not as myth would have it confined to women) and concentrated around the rainfall times. Weeding activity increases markedly immediately after periods of rainfall.

The right to agricultural land is acquired through a number of avenues. Firstly, all newly established households, whether recent immigrants or a splinter from an already established household may, theoretically, be granted usufructuary rights to agricultural land upon making a request to the tribal policeman. The tribal policeman (Johannes) convenes an *ad hoc* advisory committee to determine the position of the land.[3] Along with Johannes four of the most influential men in the Xaba and Mthethwa clans make up the rest of the committee. According to Johannes the matter of land allocation is generally discussed at the cattle dip on dipping day when most of the advisors are likely to be present. The committee then decides on the location of the field and of the garden plot. The garden plot's position and size generally suggest themselves but the demarcation of a field is more complex.

Once the site for the field has been determined Johannes will take the applicant to the site and measures it out in front of the person and witnesses. The standard size of a field is usually 100 metres by 70 metres but he has some freedom in terms of allocation.[4] According to Johannes soil quality is the most important issue in terms of consideration of the size of the field allocated. However, it is also apparent that the relationship between the committee and the allocatee is an important variable in determining the size of the field. It is noticeable, among newly allocated fields, that

bigger fields usually belong to the "original" households or to more recently established households in which one, or more, members are directly linked to a member of the advisory committee. This became evident when the individual fields appearing on the aerial photographs were matched with individual households.

Secondly, rights to land also accrue through the household property inheritance system. While the oldest son of the senior wife is entitled to his father's field, it is common practice for a man with more than one wife to be afforded more than one river field. The oldest son of each wife would thus inherit one field. The following case study illustrates both of the above points.

Case study 6

> Aaron has recently established his household separate from his older brother (early in 1989). He and his wife work two fields. One is considered to be a household plot (*izala*) by Aaron while the other is a prime field lying near the banks of the Bivane River. The *izala* was established on what was formally common grazing land after allocation by the committee, while the river field was inherited through Aaron's mother as part of her estate. Aaron's mother was married into one of the core Xaba households on Belemmerd. This household has historically enjoyed access to some of the best fields in the area. The *izala* differs from most of the other *izala* in the area in that it is a) considerably bigger than most of the others and b) located on prime soil and may almost be considered to be a second field. Aaron's older brother is one of the members of the land allocation advisory committee.

Two corollaries to this "rule" were noted. Firstly, it is uncommon although not unknown for a woman to inherit a field from her mother. In the instances where this

was noted a male heir either did not exist or had emigrated out of *oBivane*. Secondly, fields are occasionally subdivided amongst heirs. This is also a fairly rare occurrence and a few fields have been subdivided, among two (a maximum of three) heirs into plots. These fields are distinguished by lines of the tall grass used for thatching (*uchane*) that act to demarcate the plots within the field.

An important point to remember here is that while rights to settle in *oBivane* are controlled by *inkosi* Buz'ethseni Mthethwa who is resident in *oPuzane*, rights to agricultural land are controlled by the *induna* and his advisors resident in *oBivane* itself. As has been mentioned, there is some unhappiness about the ease with which recent immigrants have been given permission to settle in *oBivane*. According to Johannes these feelings have been articulated to him and it appears that there are two ways in which these feelings have been translated into action. Firstly, Johannes and the advisory committee have apparently often "dragged their heels" over allocating land. When land has finally been allocated to immigrants it has frequently been the more marginal lands that have been allocated. Secondly, and increasingly, there is a blunt refusal to allocate any land, particularly to people who came in from the outside. Case study seven illustrates the process.

As the *inkosi* benefits directly from giving people permission to settle (he asks R100.00 per allocation of residential site) but does not benefit directly from allocation of agricultural land there is no reason why the *inkosi* should oppose local policy of no further allocation of agricultural land. This policy seems to be more strictly enforced in Belemmerd and Schurwerand than in Pivaanspoort. Allocation of land in both Belemmerd and Schurwerand is controlled by Johannes and the Xaba/Mthethwa controlled committee while allocation of land in Pivaanspoort is controlled by

Johannes who is advised by Blom (the tribal policeman for Pivaanspoort) and some of the senior members of the Mavusa clan.

Case study 7

James and his family settled in *oBivane* in November 1991. James is originally from the Nongoma area. He is employed on a KwaZulu Department of Works road construction gang responsible for the maintenance, construction, and upgrading of roads in the northern parts of KwaZulu (including Simdlangentsha). From April 1991 James was working on a road crew busy with the upgrading of the Hartland - Paulpietersburg road. According to James when he first saw the *oBivane* area he was extremely impressed with the agricultural potential and applied to *inkosi* Mthethwa for permission to settle in the area.

Permission was granted and, although by November 1992 James had constructed a two-hut homestead and had been resident in the area for a year, he had still not been granted agricultural land. According to some informants there was a great deal of unhappiness about James being granted access to *oBivane*. According to one informant James could not demonstrate any links with the Mthethwa or Abaqulusini people and his admittance to the area set a dangerous precedent for other would-be settlers.

James claims that he has asked Johannes for a grant of agricultural land on a number of occasions but was told by Johannes to be patient. Johannes reportedly said that he would discuss the matter with his advisors when "the time is ready".[5] Johannes confirmed that he had been approached by James and said that one of his principal advisors had been ill for some months and that he was waiting for the advisor to recover before they would look into the matter of land allocation. By May 1993 land had still not been allocated to James and the prospects of land ever being made available appear to be slim. It appears as if, after a meeting between the newly appointed *induna* and the *inkosi*, it

was decided that, although the people of *oBivane* have little say as to who settles in the area, the matter of allocation of agricultural land could be decided at local level. According to the *induna's* representative Simon, there is no more agricultural land available and none will be allocated to new immigrants.

While it is true that newly-established immigrant households frequently have to make do with more marginal fields, this is not universally true. Some households choose sites in the more remote parts of the *oBivane* area (typically Pivaanspoort). While this has disadvantages (extremely restricted access to services and facilities) the advantages of settling in Pivaanspoort (relative abundance of good agricultural land[6]) often outweigh the negative aspects. With Pivaanspoort more remote from the central concentration of households in Schurwerand and Belemmerd it appears as if the *induna* responsible for land allocation has less interest in strictly controlling access to agricultural resources in Pivaanspoort.

Case study 8

Peter is resident on the farm Pivaanspoort. He and his family were recently evicted from a local "white" farm close to *oBivane*. The farmer, through his manager, had imposed particularly severe restrictions on the number of cattle that labour tenants resident on his farm were allowed to keep. Faced with the prospect of selling some of his cattle Peter decided to relocate to *oBivane*. His brother was resident in Pivaanspoort. Peter was briefly employed on a mine near Piet Retief, but was laid off in the mine's first wave of retrenchments in 1987. With the loss of employment and few prospects of finding alternative work (despite a lengthy spell of looking for work in Johannesburg in 1988), Peter turned his attention to maximising the resources available to him and his household in Pivaanspoort.

Utilising the money from cattle he sold and combined with some of the money he received after his retrenchment, Peter bought a length of piping (400m) that he uses to gravity feed water from a nearby spring to his vegetable plot (about 0.4ha in extent). As the spring is located about 20m above the highest point of his vegetable garden there is a relatively constant supply of water to a small reservoir (200l) located at a high point above his garden. While his household of five members is relatively small in terms of the amount of labour at its disposal it is financially supported by the irrigation scheme that has been successfully running for the past number of years. The irrigation scheme means the homestead has a year-round supply of vegetables for domestic use. In addition his wife sells vegetables locally and in the neighbouring closer settlement area. The sale of the vegetables and the harvest of his Bivane River fields supports the household for the most part.

While sales are relatively irregular and the price received for the goods quite small, Peter claims that he earns approximately R150.00 per month in profit. Some of the profit is used to generate the resources to cultivate the 1 hectare river field to which Peter has access. Despite being a relatively new arrival in the area he has access to a relatively large fertile field (1,1ha). The dispersed nature of settlement in a remote area of Pivaanspoort meant that when Peter asked for permission to settle he was able to acquire quite extensive agricultural lands. Peter negotiated a site and lands before quitting the Vryheid farm and says that he would not have left if he had not been relatively satisfied with what he was offered.

It is important to bear in mind the fact that access to land is defined here in terms of "right to plough". Thus figures given for fields under household control are not always for *de facto* usufructuary use of the fields, but for household "possession" of fields irrespective of who uses them. In *oBivane* households that do not have the resources to utilise their own fields for a season often lease the fields to an individual or household that is in a position to use the field. The conditions under which this takes

place vary, with kinship ties and the relative power of the parties being important variables in the negotiation of contracts. This factor is critical to an understanding of the utilisation and over-utilisation of agricultural resources and will be discussed further in Chapter Six.

While households that produce a surplus attempt to market it in a variety of ways, the notion of what constitutes a surplus is not always clear. An issue that deserves greater attention is the notion of subsistence versus surplus production. A question put to respondents was "Did this household harvest a surplus crop in the last season?". While this question initially appears to be self-evident, the answers given reflected people's varying perceptions around the notions of what constitutes a surplus. Typically the reply to the question would initially be negative, but further probing would almost always disclose that the households concerned had sold crops.

The apparent contradiction disappears when one realises that "surplus crops" and "crops that are sold" during the course of the year do not always mean the same thing. Discussions with the respondents indicated that while the stored harvest is seen as the household's subsistence harvest, the meaning given to this notion is somewhat wider than that typically given by, for example, an agricultural economist. Those interviewed saw the harvest as a resource that could be utilised as opportunities permit. In other words, portions of the harvest might be sold to meet immediate cash needs (e.g. for school fees) or may be sold if the appropriate marketing outlets became available and if an acceptable price is offered. Respondents would thus define the harvest as intended for subsistence purposes (i.e. as part of an initiative to support the household) even though by other definitions it may have served many of the functions of a surplus. Furthermore, the fact that some households are poor means that

members often cannot risk selling any part of a good harvest; instead they prefer to store it well into the next agricultural season in case the following harvest is a failure.

When households do elect to sell crops two important marketing channels for surplus or "crops for sale" exist. Firstly, a ready local/regional market exists for maize as few residents of the nearby closer settlement areas have access to sufficient agricultural land for subsistence purposes. Respondents reported that they were frequently approached by people from these areas wanting to buy maize. The *oBivane* area enjoys a reputation as the breadbasket of the wider region. In addition the Simdlangentsha MP for the KwaZulu Legislature makes frequent trips to the Ulundi/Nongoma area. He buys maize from the farmers in the *oBivane* area and then re-sells it in this maize poor area.

Agriculture and local knowledge

In Chapter Two a number of arguments forwarded by agricultural officials to explain away the poor crop performance of "homeland" farmers and the degradation of the resource base were listed. The main elements of their argument are:

- crops are grown in poor soil as farmers cannot distinguish between the best or most appropriate soil types and this ultimately leads to soil erosion
- crops are grown on steep slopes and this renders the topsoil vulnerable to erosion
- farmers are unaware of the benefits of contour ploughing
- farmers are unwilling to improved seed or fertiliser to improve yields and prefer to rely on intensive cropping of the same fields year after year which

means that the fields are not allowed sufficient fallow periods to recover and fertility declines.

This section will show that the above arguments are not readily applicable to *oBivane*. Either they are not relevant at all or they overlook the fact that certain decisions are forced on farmers by necessity and are not taken out of ignorance. *oBivane* is therefore a useful case study as it allows an exploration of the extent to which local knowledge may contribute towards sustaining viable agricultural practices.

As was mentioned earlier there are four possible reasons for suggesting that local knowledge has had a positive impact on sustaining the resource base in *oBivane*. By way of summary these are:

- *oBivane* has not been subject to the massive population influx that has characterised so many of the "homeland" areas until very recently

- agricultural activities are a cornerstone of the economy of *oBivane* and an economically viable agricultural base remains intact for at least some of the households

- the remoteness of *oBivane* means that little in the way of formal agricultural extension work has been carried out in the area and therefore knowledge about agricultural practices is either indigenous or informally accumulated and dispersed.

- *oBivane* has never been subject to betterment planning and settlement patterns, and the allocation of lands have been largely internally controlled

An understanding of these conditions provides the context for a discussion of whether the claims made by agricultural officials are appropriate in *oBivane*.

Ignorance of soil types

Comparison of the actual geographical distribution of agricultural activity with the soil class analysis mentioned earlier shows that cultivation is concentrated around those areas indicated as Class I and II. That this is no coincidence was borne out by interviews with local farmers. It was found that the people of *oBivane* themselves distinguish five basic agricultural soil types.[7] A series of household and focus groups interviews held in the area confirmed that knowledge of soil types is widespread and that a great deal of agreement exists about the potential of the different soils and their distribution in the *oBivane* area. This challenges the myth that "natives have very little idea of fertile soil, choosing for their gardens land which is conveniently near and, if possible, not covered with bush" (Krige 1957:189) and that "land fertility, the quality of the grass cover, have no great value since high agricultural output itself is not a value" (Reader1966:35). Rather it confirms Bryants' observation that

> digging on their knees month-long year by year, one may well expect the Zulu have known something about the soil. So they have learned to distinguish between all the several varieties of arable land in their own country, and to each they gave a special name (1949:300).

Further, it became evident during the course of the study that this was not a male or a female dominated discourse but that the knowledge was shared by most of the adults.

The major soil types identified and ranked by suitability are as follows:

isiBomvu: Fertile red soil, said to hold water well and to be suitable for most crops. People concentrate on planting the main crop types (maize and beans) in this soil. This soil type is regarded as the best in the area, and its geographical extent coincides largely with the area demarcated as Class I and Class II by the soil survey (see figure 9).

isiHlabathi: More sandy in texture than *isiBomvu* it is also regarded as holding water well, but does not seem to have the same fertility potential as *isiBomvu*. People grow most crops in this soil, but concentrate on fertilised maize. The soil type is also sometimes associated with the sandy alluvial soils proximate to the river banks. It also coincides largely with the area demarcated as Class I by the soil survey.

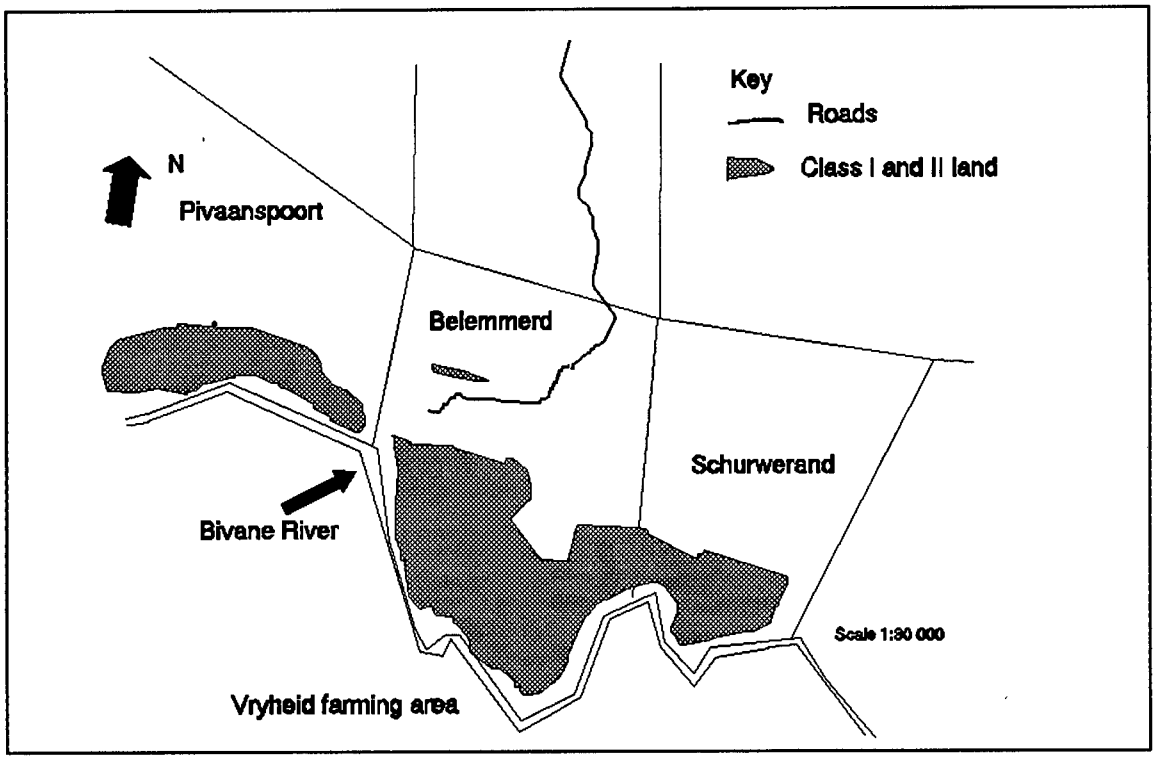

Figure 9 Extent of Class I and Class II soils from the soil survey

iDudusi: This is a soft soil type, and farmers in the area distinguish between two sub-types in this category. The first sub-type, *uKhithi,* is soft and grey in colour. It is considered marginal agricultural soil and needs good steady rain in order to produce

a good harvest. The second sub-type, *inSoka,* is generally considered to be the most marginal of the agricultural soil types. It is white and soft, producing little if the rains are not good and quickly turning to mud if the rains are too heavy. It is also said to wash away easily. These soil types coincide with the Class III and IV types identified by the soil survey.

uGedla: A variety of soil types fall into this category of hard stony soil, with only *umGumnqa* (brown/grey soil) being considered to be of any use. The soil is considered to be too hard and dry for good agriculture, although some people plant maize and pumpkins in this soil. These soil types also coincide with the Class III and IV types identified by the soil survey.

The geographical spread and availability of these soil types are widely known, and farmers interpret much of the expected and actual performance of their crops within the context of the soils in which they are grown. During interviews it emerged that the distribution of soil types also plays a role in the demarcation of areas considered suitable for agricultural activity. When discussing the issue of allocation of agricultural land with the tribal policeman responsible for this task, the rather small amounts of land considered suitable for further allocation as agricultural fields were pointed out. These areas largely coincided with the remainder of the Class I and II land as demarcated by the soil survey. While this may not be remarkable given the local knowledge and agricultural expertise of the farmers it does demonstrate that even without access to sophisticated soil sample techniques, experienced farmers can differentiate between good arable land and marginal land. Therefore the argument that rural "homeland" farmers cannot distinguish between good and poor soils does not stand up under closer scrutiny in *oBivane.*

Of particular interest was an experience during an initial visit to the area. As part of an investigation into the impact of the proposed Paris Dam people from *oBivane* were shown land that was proposed as replacement for that which would be inundated by the dam. The land was unfamiliar to most of the people as it was located on a "white" farm adjacent to *oPuzane*. After being shown the land people expressed the opinion that most of the soils were of an inferior quality to those found in *oBivane*. Where soils were of the same quality they were not present in the same quantities as in *oBivane*. A detailed, scientific survey, undertaken by a firm of consultants from Pietermaritzburg, commissioned by the Department of Water Affairs and Forestry arrived at precisely the same conclusion.

Further evidence for a strong local knowledge of soil types, soil fertility and the vulnerability of slopes to soil erosion was gained from an examination of the spread of cultivation over time, as evidenced in the aerial photographs.

The photographs show that there has been an increase in the extent of agricultural cultivation in the area and in the number of people in the area. However, a particular trend emerges when one superimposes the soil type distribution (according to the soil survey) onto the successive photographs.

In the 1943 photograph agricultural activity was confined almost exclusively to the flat, low-lying areas of the river banks, i.e. to the very best agricultural land available (see figure 10). The area cultivated in 1943 amounted to approximately 53ha.

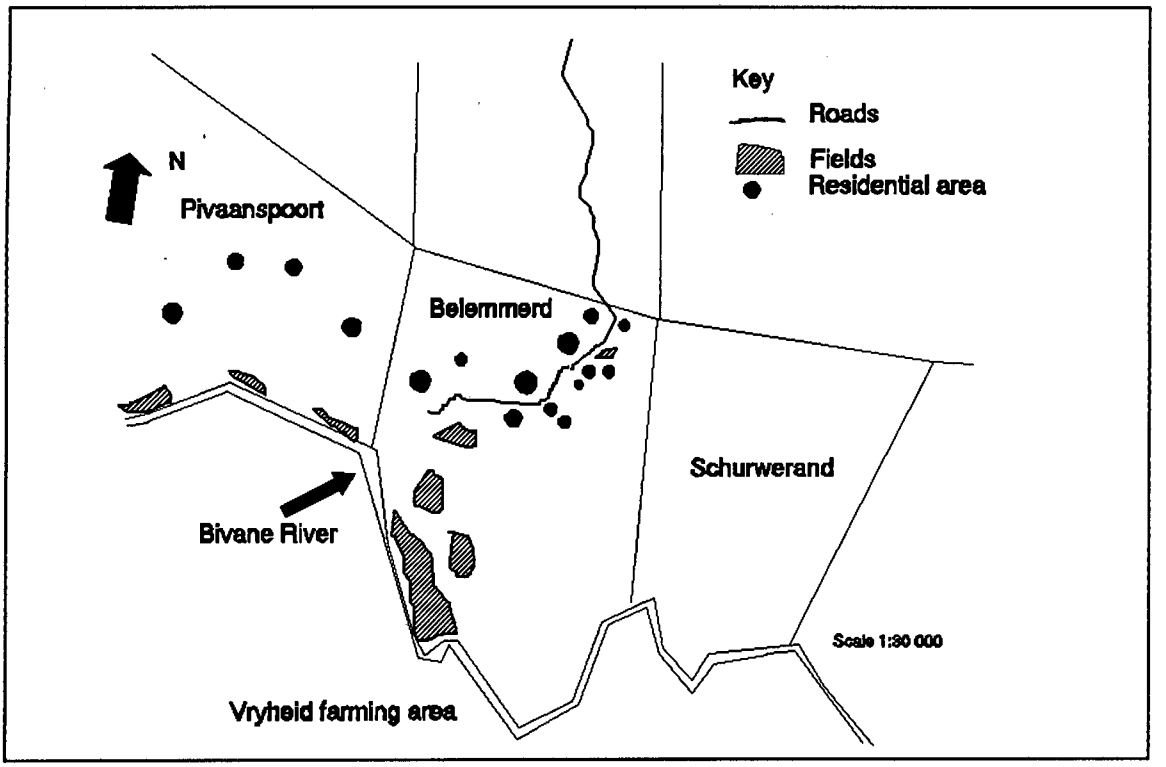

Figure 10 Approximate location of residential sites and extent of cultivation according to 1943 aerial photograph.

While it is a conjecture to assume that only households resident on the farms Pivaanspoort and Belemmerd ploughed these fields, the dispersed nature of settlement evident from the photographs suggests that this was likely. Thus the 53ha was probably cultivated by the people in the 14 residential sites that were present. This would mean that each site had in the region of 3,8ha of agricultural land. These lands were primarily Class I agricultural land and the lands were located in areas not directly threatened or contributing to the process of gully erosion, i.e. they were located away from the noticeable gullies and on the flattest lands. Some garden plots (*izala*) around the homestead are noticeable but they are quite small.

By 1976 the picture had changed somewhat (see figure 11). While intensive cultivation was still located primarily within the best lands, three additional trends had become apparent.

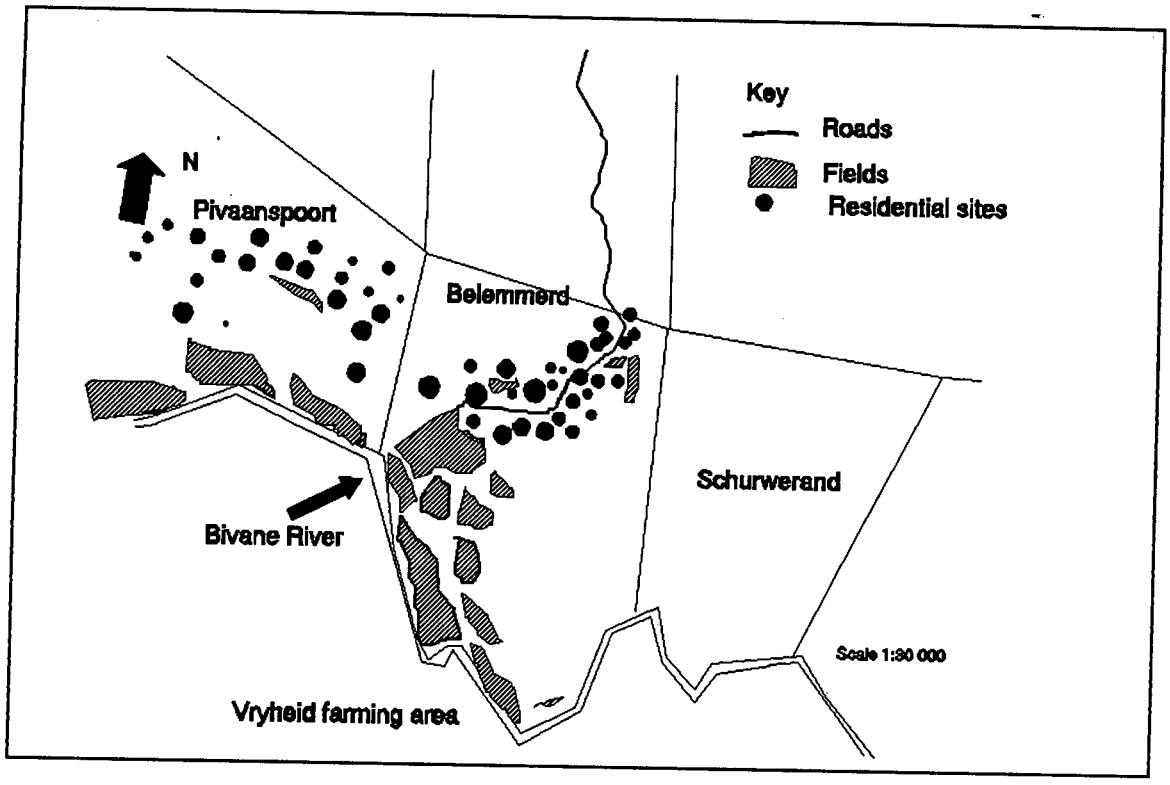

Figure 11 Approximate location of residential sites and extent of cultivation in 1976

Firstly, agricultural lands had extended away from the river towards the concentration of households located in the vicinity of the access road. Secondly, the existence of homestead plots around the households is noticeably more extensive. These plots are located on land that generally has a steeper incline than the "river bank" fields, and on land of a soil type that is generally considered more marginal for agriculture. Thirdly, the encroachment of fields into areas proximate to eroded gullies, though not extensive, had become evident. There appears to have been approximately 145ha under cultivation at this time. Given a total of 58 residential sites in 1976 the average amount of land cultivated per residential site was approximately 2,5ha.

By 1989 the amount of land under cultivation had changed quite considerably (see figure 12). According to a report submitted to the Department of Water Affairs (Department of Water Affairs 1989), 161ha below the 760m contour line was under cultivation in June 1989. Almost all of this was on Class I and II agricultural land. All

the land in these two classes was being utilised for cultivation except for a block of land located in the extreme south-east of the research area (five kilometres from the nearest homestead). Interviews with respondents indicated that it was the problem of access to this land that kept it from being cultivated. In fact the only land that is being cultivated in the south-eastern area is land allocated to people with access to mechanised transport and to tractors.

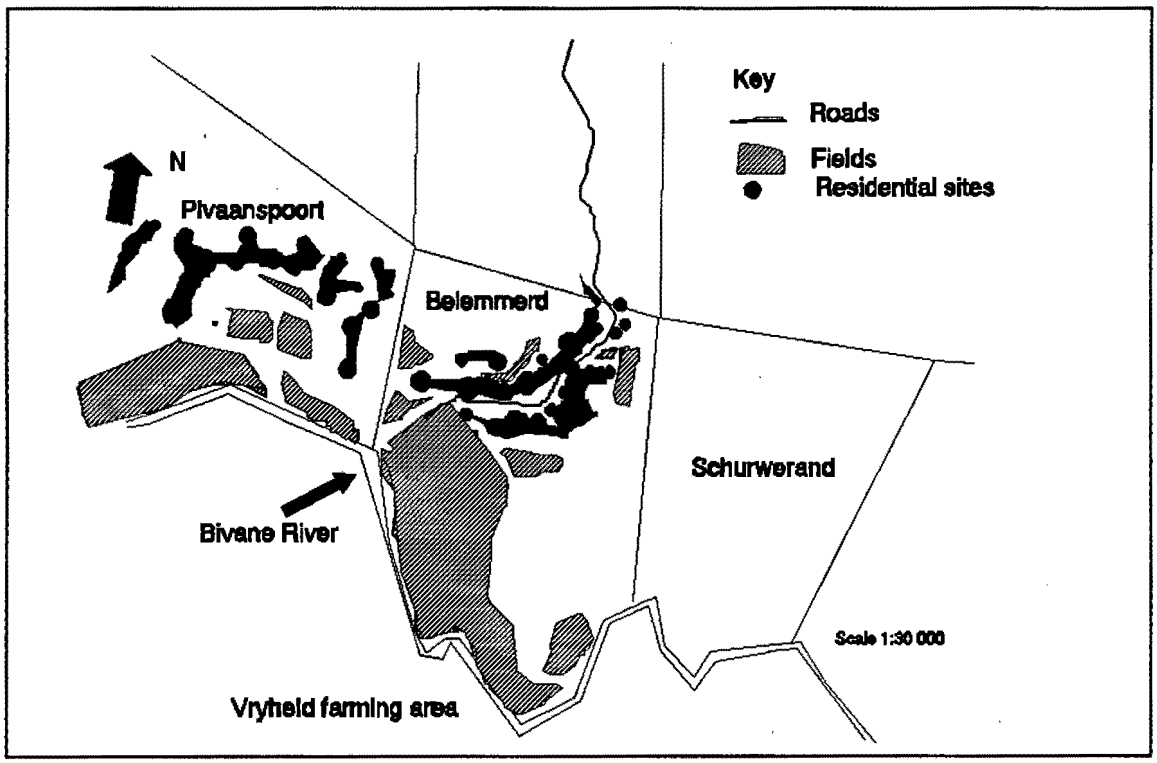

Figure 12 Schematic representation of residential sites and extent of cultivated fields in 1989

In addition approximately 41ha above the 760m contour line in the research area was being cultivated. Much of this was in the form of fields close to the homestead sites (excluding household garden plots). In total approximately 202ha was being cultivated, by the people in the 104 residential sites evident on the photographs, for an average of almost 2ha per household. This was close to the figure arrived at in the survey data which was approximately 2,2 ha per household.

A number of trends are discernable from a comparison of the 1989 photographs with the earlier two sets. In the first place, the extension of agricultural lands away from the river and up towards the concentration of households located in the vicinity of the access road is considerably more marked. Secondly, the existence of homestead plots around the households was noticeably more extensive. Thirdly, the encroachment of fields into areas proximate to, and even between, the eroded gullies is relatively extensive.

These trends highlight two crucial issues for resource management in *oBivane*. Firstly, the average amount of land available per household is on the decline, and secondly, the land that is in use is gradually encroaching into areas that are more marginal and more vulnerable to the process of erosion. Some of the consequences of these changes are discussed below.

In the 1943 photograph the more marginal fields (household plots) away from the river formed a scattered patch-work of relatively small extent. This patch-work would have ensured that some fields were able to lie fallow (a process that was standard practise according to oral testimony from residents) so that the successional natural growth would have enhanced soil fertility and checked the run-off from cultivated fields. By 1976 and certainly by 1989 this system was breaking down, with the patchwork of fields extending to form interlocking expanses of fields. Extensive cultivation of this type tends to render soil more vulnerable to erosion, because there is very little natural vegetation within the drainage basin to check soil run-off (Toy 1977:103).

Interviews with residents confirm the trends evident in the photographs. Discussions with both men and women involved in agricultural management indicated an

awareness of growing environmental degradation and increasing vulnerability to erosion. Thus while practises like contour ploughing are standard procedure (as far as is possible) and the theory behind it (reduction of vulnerability of ploughed fields to erosion) is widely understood, local residents are confronted by a reality which dictates that they must sometimes plough on slopes that are vulnerable to erosion.

Interviews undertaken, and direct observation over an extended period in the area, also demonstrated that there is an awareness of a number of methods for ensuring that donga encroachment does not proceed unchecked in the area. A number of farmers have invested a great deal of time and energy in building stone retaining walls along the lower slopes of vulnerable fields in order to check the process of erosion. These walls are built of stones that are selected and placed to form interlocking walls in a manner similar to the construction of cattle *isibaya*. Furthermore, farmers with lands close to some of the existing gullies have built a series of stone walls within the gullies to prevent further erosion. The degree to which this is successful is evidenced by the fact that most of the gullies are not barren but have trees and shrubs growing in them.

Case Study 9

> Tim is a household head and about 48 years old. He and his wife have six children the oldest of whom (a 22 year old) works on a farm near Vryheid. He remits R80,00 per month on a regular basis. The remaining five children, ranging in age from 6 to 17 years old, remain at home, and the youngest four attend school. The wife of the oldest son (the *makoti*) is also resident in the household. In addition, Tim's nephew, who was resident in Soweto, has acquired employment in a coal mine in the Dundee district. He utilises Tim's home as a base and remits R100,00 a month to Tim.

Tim is a respected *inyanga* in the area and earns some income, though irregular, through this work. Tim and his household have two fields; one is a household plot, and the other is a field of about 1ha located near the bottom of the valley in which their residential site is located. Tim has 14 cattle including six oxen that he can utilise for ploughing purposes.

In addition to his own fields Tim has an arrangement with his cousin to plough his fields. The cousin, Jeremiah, who is a migrant working in Germiston, is head of a household that is nearing the older phases of the development cycle. Jeremiah and his wife had only daughters all of whom (barring the youngest) are married into their own households. The amount of labour that Jeremiah can call on is thus relatively small. Tim on the other hand has sufficient labour and cattle to undertake fairly extensive ploughing.

An agreement has been reached whereby Tim ploughs his cousin's fields utilising his own labour and cattle, but in return his cousin supplies the other inputs for both his own and Tim's fields. This includes fertiliser and seed. The cousin has three fields, as he was allocated two on his arrival and his wife inherited one through her mother. A third field which is located next to the Bivane River is ploughed by Simon (see a following case study).

Tim could not give an accurate account of the amount of crops that he harvested in 1990 but he had more than he could store in his *Inqolobane* (grain storage hut). Despite the fact that Tim reckoned that he had more than sufficient for subsistence purposes during 1990, he decided that he would not sell any of the surplus as he felt that the 1991 harvest would be marginal and that he would need the surplus to tide him over in a poor agricultural year. This proved to be the case.

Tim ploughs his fields with the assistance of his wife and son (a 15 yr old schoolboy). When the decision is made to plough the son must help Tim from about 4.30 in the morning until 6.30 when he goes to school.

In addition to the labour input required to cultivate the fields, Tim's fields are located in a zone that is vulnerable to the ploughed soil being washed away in sudden downpours. In order to obviate this, Tim and his family dig furrows at the top of the field prior to ploughing and reinforce the furrows with a bank. This helps to direct any rainwater washing off the slope away from the vulnerable top soil. Tim also keeps an eye on the extent of a donga threatening his field and often uses stones to reinforce the donga walls and to act as a soil catchment to prevent the gully encroaching into his field area. This is an ongoing process and both Tim and his son (and sometimes his wife) inspect the gully on an almost daily basis during the rainy season. Immediately after the rainy season potentially erodible points are identified and worked on. According to Tim the extent of the gully has not grown noticeably since he (and his father before him) had access to the fields in the vicinity.

Crosschecking with the aerial photographs shows that the gully does not really appear to have become any wider or longer. It is impossible to tell from the photographs if there has been any increase in the depth of erosion.

In summary and contrary to the opinion of agricultural officials, it is possible to argue that *oBivane* residents have a good idea of soil types and of the dangers inherent in cultivating areas that are agriculturally marginal. Likewise people seem to have a good idea of the inputs needed to maximise crop production as is discussed below.

Agricultural inputs

An important issue in crop production appears to be access to sufficient cash income to buy hybrid seed and fertiliser, and local farmers are fully aware of the importance of these inputs in ensuring a good harvest. While all those interviewed were convinced that the hybrid seed bought from the Farmers Co-operative in Paulpietersburg gave

a better yield than the seed from a previous crop, not everyone was in a position to afford this kind of seed. Access to an income sufficient to afford hybrid seed proved to be a critical factor in the 1991-1992 season. *oBivane*, along with much of the rest of southern Africa, experienced a drought year. In general it was only those households that had bought drought resistant hybrid seeds that realised a harvest that season.

Furthermore, the general body of opinion is that chemical fertiliser was desirable to ensure a good harvest, although doubts were expressed as to the desirability of utilising chemical fertiliser on an extended basis. Again not everyone could afford the fertiliser. The most marginal of households (without access to an adequate cash income and nil or few cattle) use no fertiliser at all. Those slightly better off and having possession of a reasonable number of cattle (and the majority of households fall into this category) use the dung accumulated in the cattle kraal (*isibaya*).

A further distinction should be made. The upper echelon of households use a variety of inputs. While some rely almost exclusively on chemical fertiliser, they appear to be in the minority. Most of the wealthier households use a combination of dung which is taken from the cattle *isibaya* and mixed in with a pre-determined quantity and quality of chemical fertiliser. This strategy appears to reflect the farmers' personal preference as well as financial means. Intensely debated are the merits of a 4:3:2 fertiliser versus a 2:3:2. While 4:3:2 is said to be better, most farmers question whether its added expense over 2:3:2 is justified.

Allowing fields to lie fallow also restores field fertility. Again while people in *oBivane* are aware of the advantages of allowing fields to lie fallow few can afford the luxury of doing so.

An interview with the local tribal policeman (Johannes), whose duty it is to allocate land to new settlers or newly established households and to monitor the usage of land, reflects just how acutely aware people in the area are of constraints placed upon land management strategies:

> It would be better if the *umuzi* (household) could allow their lands to *qinta* (lie fallow). If the *umuzi* had four fields then each year one could be left. But as it is most *imizi* have only two fields. There is too little land to allow any to go unused.

While some of the households do have sufficient fields to allow some to lie fallow this is not an option that is pursued by all of them. The reasons for this are discussed in the following chapter.

This chapter has concentrated on the various ways in which local knowledge are employed to ensure that agriculture is carried out in a relatively sustainable manner in *oBivane*. It has also shown that the argument that poor agricultural performances and land degradation can be linked to the ignorance of farmers in the homeland areas is seriously flawed. The point that population influx and the accompanying increase in demand for agricultural land has a potential negative impact on the ability of residents to manage local resources. Attention is now turned to the way in which the extent of the material differentiation evident in *oBivane* impacts on the various households ability to manage resources.

CHAPTER FIVE END NOTES

1. The proposed Paris Dam was planned with a 100 year flood line at the 760m contour. The intensive agricultural investigations that were done for the feasibility study concentrated on the area between the river and the 760m contour.

2. This was established during a survey of 10 households. Fields were measured with a measuring wheel and the amount of crops harvested was calculated against the size of the field.

3. Until recently the roles of the *induna* for *oBivane* and of the tribal policeman were virtually tied up in a single individual: Johannes. Johannes is the younger brother of the former regent who acted as the Mthethwa Tribal Authority *inkosi* until 1982. As such Johannes is the uncle of the present *inkosi* and is generally regarded as the senior of *oBivane's* most influential men. However, Johannes was never officially the *induna* for *oBivane* because the present *inkosi* insisted that his *izinduna* must be literate and be able to communicate with him in writing. As Johannes has had no formal schooling he was not considered to be qualified for this role and was therefore not officially designated as an *induna*. According to *inkosi* Mthethwa, Johannes's official designation is that of tribal policeman and the post of *induna* for oBivane was recently awarded to Cornelius another of oBivane's elder residents. Nevertheless Johannes is popularly seen as one of the foremost of oBivane's citizens and is generally referred to as the *induna*. His position as the *inkosi's* trustee of agricultural land is a prominent one and Johannes generally acts as the official channel of communication between the *inkosi* and the residents of *oBivane*.

4. According to Johannes two morgen is the accepted norm for a field size.

5. In this instance the *induna* referred to is the tribal policeman Johannes.

6. It was recently pointed out to me that residents in *oBivane* believe that Pivaanspoort is characterised by higher rainfall than Belemmerd and Schurwerand and is therefore more suited to certain types of agriculture. Although there are no rain gauges on the farms there may some evidence for higher rainfall on Pivaanspoort. Recently, as part of the development initiative, some of the springs in oBivane were protected. During the course of undertaking the work it became evident that there are more springs on Pivaanspoort than on the other farms and that they were generally stronger flowing.

7. Bryant (1949) in his ethnography "*The Zulu People*" lists the 11 soil types that his respondents distinguished. These were *iBoje* (swampy ground), *iFenya* (moist ground), *iTshetshe* (dry, dusty, infertile ground), *iDudusi* (sandy and moderately fertile), *uGade* (fertile, medium loam soil), *uGadendzima* (dark brown, clayish, heavy loam soil), *uNdindikanzana* (like the preceding but reddish in colour), *isiDaka* (black, clayish, moist soil, usually riparian), *isiBomvu* (fertile red loam soil), *iMvundumvundu* (soft, crumbly, rich in humus), and *uGedle* (stony soil).

CHAPTER SIX: RESOURCE MANAGEMENT, DEGRADATION AND THE IMPACT OF SOCIO-ECONOMIC DIFFERENTIATION

Introduction

> Land degradation should by definition be a social problem. Purely environmental processes such as leaching and erosion occur with or without human interference, but for these processes to be described as 'degradation' implies social criteria which relate land to its actual or possible uses (Blaikie and Brookfield 1987:1).

The previous chapters have outlined some of the arguments for *oBivane* being relatively unaffected in terms of outside interference, and have shown that an agricultural base, that supports at least a portion of the households' subsistence needs remains intact, although it is under threat as a result of population influx. This chapter looks at social differentiation and draws some preliminary conclusions regarding the degradation of the agricultural resource base, as a productive entity, for some of the residents of *oBivane*.

Although this cannot be conclusively proven, largely because the negative consequences of the process will probably become evident if monitored over a longer period of time than was available to this study, this thesis contends that the impacts of degradation are serious enough to warrant discussion. Broadly speaking it appears to be the relatively good fertility of the *oBivane* soils, combined with relatively high degree of household differentiation, that is contributing to the degradation and erosion that may be taking place in the area.

In *oBivane* there are certain factors which encourage marginal households to rent out their land to wealthier households. These factors include:

- the high cost of agricultural inputs combined with low incomes

- a strategy of risk management by marginal households
- manipulation of the land allocation committee by wealthy households

The strategy employed by wealthy households with regard to the land that they rent is often short-term profit maximisation. Three factors combine to encourage a strategy of profit maximisation. These are:

- the need for the recipient household to cover the cost of renting the field
- a ready market for surplus crops
- the productive capability of certain lands

A strategy of profit maximisation involves cultivating the land utilising chemical fertilisers, hybrid seeds, and making maximum use of the land for as many seasons as the returns exceed the cost of investment. Although it cannot be conclusively proven that this strategy of profit maximisation is harmful to the lands there are indications that this is so. In order to understand the dynamics involved certain dimensions of the process need closer examination and further research would almost certainly shed light on the matter.

Households which possess fields are faced with a decision, at the beginning of every agricultural season, as to whether or not to cultivate their field(s) during the coming season. Figure 13 below outlines some of the typical dimensions of the decision making process. The model was drawn up after discussions with a number of households and highlights the various routes that households may follow and the goals that are regarded as attainable. Households that lack the resources for cultivation have the option of leaving their fields fallow or trying to rent out their fields. Households that decide to cultivate may do so within the context of profit maximization or

"subsistence farming". The decision as whether or not cultivation should go ahead appears to be primarily influenced by the productive potential of the field and by the resources available to the household.

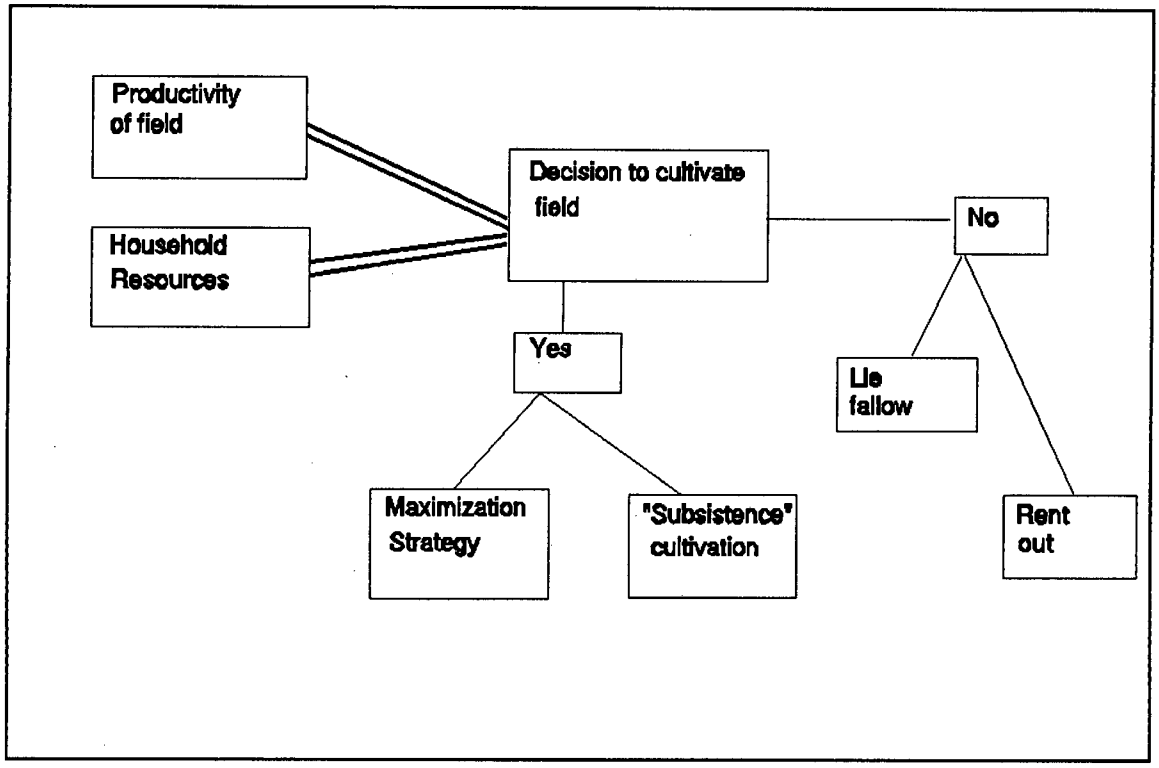

Figure 13 Decision making process with regard to cultivation.

To cultivate or not to cultivate, that is the question.

The first of the dimensions that needs consideration is the cost of investment in agriculture. The cost of maximising resource utilisation is high relative to incomes in the area. Among the input costs (at 1992 prices) are the following:

- fertiliser (approximately R45,00 per bag)
- transport of manure to field (approximately R30,00 per load)
- hybrid seed, (approximately R40,00 per field)

- hire of tractor/oxen for ploughing purposes (approximately R80,00 - R100,00 per field for hire of tractor)
- labour (usually R2,00 per person per day)

Interviews were undertaken with ten randomly selected households during March 1992. During the survey people were asked to detail their expenditure on agricultural inputs. The same ten households were surveyed in July 1992 and data on the actual harvest realised were accumulated. This survey showed that there was a strong link between access to cash income, expenditure on inputs, and the eventual harvest realised. Although 1992 was something of an exceptional year with *oBivane* experiencing a severe drought, the survey showed that of the five households that spent the most on agricultural inputs (an average of just under R175,00 per field) three had sufficient harvested crops to be in a position to sell some of the harvest that they regarded as surplus to their household requirements. None of the households that spent least on inputs were in this position. In fact two households did not have any harvest at all. From the survey data the most important input in terms of harvest quantity in 1992 was purchase of hybrid seeds.

From the interviews undertaken it emerged that there is a general feeling that because input costs are high relative to local incomes, it is only worth investing considerable amounts of money in agricultural inputs if the chances of a return are relatively good. Households that adopt this profit maximisation strategy tend to be those with access to some cash income and access to relatively productive lands. These are generally the better off and more powerful households. In a brief survey of 10 of the 16 "original" households referred to in Chapter Four it was shown that 9 of these households pursued this strategy for at least one of their fields. Of the 10 " most recently established" households only two pursued this kind of strategy for any of their fields.

To rent or not to rent, that is the question

Among those households that lack the resources to cultivate their lands are those that make over fields to wealthier households on a rent contract basis rather than cultivating their fields themselves. Some of these households are motivated by fear of losing access to their fields should they not use them, while some are motivated by the fact that they would prefer to receive some return from their fields rather than no return at all. Still others prefer not to take on the risks of cultivating a field when they may fall victim to flooding or droughts and lose their entire harvest. In this instance the renting out of fields becomes a form of risk management. The following case study illustrates some of these dynamics.

Case Study 10

> Anna is a widower whose economic status is extremely precarious. She lives with her daughter, who is predominantly absent as she works as a domestic worker in Paulpietersburg, and 15 grandchildren. Anna has access to a 0,33 ha garden plot and a 0.75 ha alluvial field. During the 1989/90 agricultural season she utilised some of the money remitted by her daughter and some of the money paid by other children resident in various areas of the country to hire a tractor to plough her garden plot and half of the alluvial field. As the household had only two cattle in late 1989 and the adult labour contingent in her household is practically non-existent she was forced to utilise a tractor to plough. She had no money for hybrid seed or for fertiliser. She had hoped to plough the other half of the river field, but her daughter in Paulpietersburg was tardy in remitting and by late January, when she received money she judged it to be too late to invest in the field. She only utilised half of the field, and reported that she was unable to harvest enough to provide adequately for the family. In fact by July 1990 the 6 bag harvest had been consumed and her *inqolobane* was empty.

In November of 1990 she had been forced to utilise the money remitted by her children, not to buy seed and pay for a tractor, but for more immediate household needs. She had started to hoe the small household field and was hoping that money would be forthcoming from a son employed in Vryheid as a taxi driver to ensure that she could hire a tractor for the bigger alluvial field. In fact no money materialised in time to cultivate for the 1990- 1991 season. During 1991 she was warned by the *induna* that unless she cultivated the field in the following year she would lose the field.

Anna decided to give the field over to Simon (see case study 12) for the 1991-1992 agricultural season as she feared losing the field and there appeared to be little chance of her acquiring money for the necessary inputs. Simon agreed to give her 1/12 of the realised harvest. Anna was not particularly pleased with the contract but felt that there was little she could do about it. Her share of the harvest after a relatively dry year realised only 1 bag of maize. In the 1992-1993 season Simon declined to take the field and the field remained fallow.

Over the years Anna has put more effort into cultivating the household plot and less into the alluvial field. The household plot is located on a relatively steep slope. However the fact that it is immediately accessible in comparison with the river field, which is about 4km away, means that the plot is intensively utilised with little in the way of fertiliser or nutrients being put into it. As it is located in somewhat less fertile land than the river field the yield is typically lower and likely to decline.

From this case study it is clear that there is some coercion involved in the system of renting land: those households with good agricultural fields but insufficient resources to cultivate them, are generally forced to rent out their fields to those who can afford to cultivate them. The mechanism through which this control is exercised is primarily the *induna* (Johannes) and the "land allocation committee". According to Johannes the fact that the people of *oBivane* are "hungry for land" means that he has to ensure that

people do not to leave their fields unused for more than two or three seasons.[1] Johannes said that he was aware that some people did not have the money to cultivate their fields but he felt that in these instances it was in everyone's best interests if those people let someone else cultivate their fields for them that season. He therefore stated that he encouraged the system of rent contracts.

By May 1993 the situation appeared to have changed somewhat. In an interview with Johannes in May 1993 he stated that he was under pressure from new arrivals into the area to allocate unused fields to them. No new agricultural land had been allocated to settlers since 1990. Johannes pointed out fields which he was thinking of reallocating. One of these belonged to Anna. Some of the other fields had, apparently, only been lying fallow for two seasons. This obviously has implications for those households who cannot afford to cultivate their fields but would elect to allow them to lie fallow. It appears as if they are going to be increasingly restrained from pursuing this course of action.

To maximise profits or not to maximise profits, that is the question.

Households that are in a position to cultivate fields fall into two categories i.e those that elect to cultivate for subsistence purposes and those that elect to maximise the profit potential inherent in their agricultural activity. These categories should not be seen as discrete entities but as two ends of a continuum. As such few households actually set out to produce a subsistence harvest and nothing less or nothing more. Rather households in this category, and they are generally households that are not particularly financially well off, are concerned with minimizing risks. They elect not to invest in expensive inputs as crop failure would be a severe financial blow to the household. Case study 11 illustrates some of the dynamics.

Case study 11

Samson is one of the senior residents in the area. Aged about 60 years he was born in the area and is a cousin of the present *inkosi*. Samson resides with his wife, two migrant sons, the *makoti* (daughter-in-law) who is the wife of the oldest son, two daughters not yet married, a school going son and four grandchildren aged between a few months and nine years.

Samson has access to a household plot and two fields. His length of residence means that when he established his homestead it was quite common for residents to be granted rights to more than one river field. As his household has not fragmented it retains these rights. Samson has one of the largest fields in the area measuring almost 1.8ha. The 1990 harvest yielded 100 bags of maize in addition to beans and some pumpkins. Samson sold 21 of these bags for R30,00 a bag. His *inqolobane* (steel 500l container) was still full at the end of November. Samson has both his eldest sons take leave during ploughing season to aid him and the household. The largest of the river fields took four days to plough utilising the household's own oxen. The smaller of the river fields took two days to plough, as did the household field.

Samson will not use chemical fertiliser this year (1992/93) as he feels it is too expensive. He will only use cattle dung on the fields. He buys some hybrid seed but mixes it with his own harvest seed and plants it. Samson was unconcerned with the possibility of soil erosion as he says that the fields he ploughs are not particularly at risk. Visits to his fields prove him correct. His large field is big enough for him to attempt to contour plough (which he does) and is located on relatively flat ground. His smaller field likewise is located in something of a basin making the risk of soil run-off practically nil. His household plot is also relatively secure from erosion.

Samson did however express concern with falling yields and his growing dependence on fertiliser. As he had a good crop in 1990/91 and a

relatively good crop in 1991/92 (at least compared to others in *oBivane*) he has quite a substantial surplus. He is planning to see what his harvest will be like without chemical fertiliser and is considering allowing his smaller field to lie fallow next year if all goes well with this harvest.

Many of the households that elect to maximise profits are dependent on renting in fields from those in the most marginal category. The degree to which the renting of fields is becoming a feature of the socio-economic environment in *oBivane* was apparent during the course of the study. A number of households have elected to pursue a strategy of profit maximisation with regard to cultivation. In doing this they make as much use of rented fields as possible. These households cultivate crops for their own consumption and for the market. As such they distinguish between a subsistence and a market crop regarded as a "surplus" earmarked for profit and not as a household resource. This was discussed earlier.

An interview with a well respected farmer in the district (John) reveals that although he is responsible for ploughing eight fields, he is ploughing six of these fields on behalf of three of his brothers who are migrant workers. A second household belonging to Simon (see case study 12) is similarly engaged in cultivating lands that are rented on a sharecropping basis. Although probably the most spectacular examples, these were certainly not isolated instances.

Case study 12

Simon maintains a household for his second wife in his natal area, *oBivane*, although he is resident in one of the nearby closer settlement areas. As the owner of a number of businesses in the wider area he has access to a considerable resource base. The *oBivane* household consists of his wife Nomsa who runs the agricultural operation and a recently matriculated daughter of 22 years (from his first wife) who, at the time

of the first interview, was present at the homestead with her daughter ostensibly to help in the household, but possibly as a reminder to the alleged father of the baby (also present in the area) of his responsibility. In addition, four of Nomsa's children (all female) ranging from 5 to 14 years of age are present. A niece of the household head (aged 10 years) had been sent from a particularly marginal *oBivane* household to help Nomsa with her housework.

While officially accorded only two fields the household was ploughing a total of eight fields in January 1990. The extra six were those that officially belonged to other households but were being managed by Simon. Further probing into the issue revealed that Simon is able, through his prominent position in the "community", to persuade impoverished or recently immigrated households without the resources to plough their own fields to "rent" them to him on a sharecropping basis. Most of these fields are located in the extreme south of the area that contains good soils but has not been fully exploited for agriculture. The remoteness of the area creates an access barrier for many of the households, but Simon owns a tractor and two bakkies and can therefore make use of the land. By November 1990 Simon had persuaded two other households to make their fields over to him. In return for the use of the fields Simon gives a portion (approximately 1 bag in every 12, but this is negotiable) to the "owning" household. During the 1991/92 agricultural season Simon had managed to increase the number of rented fields under his control to eleven.

While the household does not have the domestic labour needed to work the fields, the financial resources available to the household means that they can pay outsiders to assist in the running of the agricultural enterprise. For example Nobantu drives the tractor for Simon. He is paid a percentage of the earnings of the tractor but is expected to plough all of Simon's fields for free. In return for this he may use the tractor free of charge to plough his own fields. Casual labour is often employed via "work parties" to tend his fields prior to harvesting.

The fruits of Simons' agricultural endeavour are apparent from an analysis of the earnings from his 1990/91 and 1991/92 harvests. A 2000 litre steel *inqolobane* that is reserved for storage for domestic consumption was a third full after the harvest in 1991. According to Nomsa the harvest was not as good in 1992 and the *inqolobane* was about a quarter full. Moreover, Simon sold 100 bags from his harvest at R50,00 per bag in the Mhlabatini/Nongoma area in the period after the 1991 harvest. He sold about 80 bags for R60,00 per bag after the 1992 harvest. He sold a further 50 bags locally at R35,00 per bag in 1991 and about the same number in 1992. The price discrepancy between Mhalbatini/Nongoma and the *oBivane* area is "because the people in Simdlangentsha are poor" according to Simon, but it was possibly influenced by the higher supply and relatively lower demand. The sale of the maize realised about R6 750,00 in 1991 and slightly less in 1992. In addition Simon managed to sell fifty 20 litre containers of beans at R40,00 each in 1991. This realised about R2 000,00. There was no sale of beans in 1992. In 1991 the costs of production included R800,00 for hybrid seed and R1 600,00 for fertiliser leaving a net profit of about R6 350,00. Other enterprises connected to agriculture in *oBivane* included the rental of his tractor and the purchase of "surplus" maize at R35,00 a bag to be sold in "maize poor" areas at R50,00 a bag.

Although aware of the environmental hazards in attempting to maximize production Simon says that he is forced to cultivate all the fields as those on whose behalf he cultivates the fields depend on their share of the crops to survive. If he does not produce for them they will find someone else to do so.

Given the access that Simon has to a relatively large resource base and the fact that he sees the *oBivane* operation as "a commercial farming enterprise" (his words) it is not surprising that he has deemed it necessary to maximize his profit in the area in the short term. His farming enterprise realised a clear profit of about R6 500,00 in the 1990 harvest year from his own harvest alone. Simon's profit margin is relatively high in comparison with other farmers in *oBivane*, as a result of the access that he has to

extended marketing opportunities, where he can realise a substantially higher price for his crops than he would locally. There are indications from interviews with others that, in the light of growing land pressure, some antagonism is beginning to be expressed towards Simon (among others) because he has managed to acquire access to so many fields. Since he is aware of this it is not unlikely that Simon has realised that his situation may become tenuous and has decided to maximise his profit through short term land management practises rather than to operationalise conservation methods.

While Simon's case is among the more noteworthy in *oBivane* there are at least three other cases i.e. Cornelius, Jim, and John who operate equally large operations. Table 10 below shows the access that three of them have to agricultural fields in *oBivane*.[2]

Table 10. Access to fields by the three largest fieldowners

Owner	No. of fields hired			No. of own fields	No. fields on which chemical fertiliser used (1991)
	89/90	90/91	91/92		
Simon	6	7	11	2	6
Cornelius	7	9	9	2	7
Jim	6	7	7	2	7

All three of the households mentioned above are powerful local political figures. Simon is the KwaZulu Member of the legislative assembly for the area and is held in particularly high regard by some of the residents in *oBivane*. Despite only being periodically present in the area his opinion holds great sway among local decision makers. Although Cornelius is a migrant worker he is the local shopowner and has recently been elected as the chief *induna* for the area by the Mthethwa *libandla* (chiefs court). Jim is a member of the land allocation committee and is regarded as the senior

figure in the Xaba clan. Between the three (2% of the households) they controlled approximately 8% of all allocated fields in the area during the 1990/1991 season.

Implications

Not only does there appear to be a trend towards concentrating more of the fields into fewer hands but there also appears to be a tendency towards a cycle of intensified land use in *oBivane* and a growing dependence on chemical fertilisers which has potentially negative implications for degradation of the agricultural base.

Firstly, the fact that certain lands are productive, in a situation of increasing land shortage, and that a market exists for the products of the land means that there is some pressure for these lands to be utilised as intensively as possible. Where households cannot cultivate them themselves they are persuaded to give them over to those who can cultivate them. This means that productive lands almost never lie fallow and this may negatively impact on their sustainability.

Secondly, and as was mentioned earlier in this section three factors, namely, the need for the recipient household to cover the cost of renting the field, a ready market for surplus, and the productive capability of certain lands encourages the households that have received land to pursue a strategy of profit maximisation.

Hybrid seeds and chemical fertiliser appear to be crucial for maximising the harvest potential. According to an interview with a senior KwaZulu agricultural officer in Ulundi the intensive use of chemical fertilisers in the region as a whole begins to break up the soil structure and the nutrients are leached out. After a few years of

chemical fertiliser use the soils become so dependant on chemical fertiliser that they are relatively infertile when fertilisers are not used.

In instances where lands are rented out by marginal households to wealthy households the growing dependence of the lands on fertilisers means that marginal households will be increasingly unlikely to be in a position to make effective use of the fields again and to move from a situation where they decide not to cultivate into a situation where they decide to cultivate. The intensified usage of the fields, without a period during which they lie fallow may ultimately also destroy the fields' productivity. While some productivity may be restored by allowing the field to lie fallow for a few years, the household that possesses the field runs the risk of losing it (once it becomes productive) as they will not have been seen to be utilising it effectively and it may be reallocated.

In summary, it is probably true to say that it is the growing demand for land, motivated by an increase in numbers on the land as well as by the commercialisation of some of the farming enterprises in *oBivane*, that is effectively depleting agricultural resources. That is, a trend towards "renting out of land" by marginal families rather than allowing them to lie fallow and the pursuit of maximisation of agricultural resources by wealthy families can be seen to be responsible, at least in part, for this process. Given the long-term significance of this process for degradation it is an area that merits further research.

CHAPTER SIX END NOTES

1. It is interesting to note that this rule is not universally applied. In one instance a respondent reported not cultivating a field for eight seasons. The fact that this was a particularly marginal field located away from the good soils probably means that few other people would be interested in making use of the field and little pressure would be applied to the *induna* to take this field away from the owner.

2. John has been excluded from this analysis as his household was not included in the original survey.

CHAPTER SEVEN: MORE CONSUMERS ON A RESTRICTED LAND BASE: GRAZING AND ENERGY ISSUES

Introduction

This chapter examines issues around cattle accumulation and the harvesting of fire wood in more detail. In both instances it appears that the expansion of the population in *oBivane* has had dire consequences and the shortage of grazing and fire wood are the two greatest environmental problems generated by an influx of people into the area. In the case of cattle the increase in the amount of land given over to cultivation has impacted on the amount of grazing land available. Furthermore, recent immigrants into *oBivane* have tended to bring cattle with them. This has expanded the number of cattle dependent on the available grazing.

The issue of fuel and wood resources has similar connotations. An increase in the number of people in the area has increased the demand for wood. Furthermore, the expansion of cultivated areas has meant that woodlands have had to be cleared. The dynamics of these issues are discussed below.

Livestock management

Much of the blame for South Africa's environmental problems is laid, by a range of officials, on overstocking and overgrazing. Officials in the KwaZulu Department of Agriculture that were interviewed all agreed that KwaZulu in general is overstocked. The regional livestock extension officer in Nongoma blamed it on the "Zulu custom of having as many cattle as possible. In the department we refer to this as the cattle complex". In the case of *oBivane* the official consensus appears to be that the area is no exception to the rest of KwaZulu. A report by the Department of Water Affairs

(1989:12) states that the *oBivane* area is seriously overstocked and overgrazed. The local livestock officer agreed with this assessment and also pointed out that, in his opinion, people had an emotional attachment to their cattle.

As was noted previously the local environment is extremely favourable to cattle, and hence it makes good economic sense for people in *oBivane* to invest in cattle. The sourveld grass lands of the upper hills make good summer grazing, while the lower valley floor with its mixed and sweetveld grazing gives good year round grazing. It is this thesis' contention that livestock accumulation should be understood within the context of the available opportunities and not within the context of the so-called "cattle complex".

Generally households appear to be fairly wealthy in terms of cattle. But differentiation is particularly evident. While households in *oBivane* are wealthier in terms of livestock than in most other rural areas of KwaZulu (see May & Peters 1984 for comparison) even in *oBivane* a substantial number of households have less than the required critical herd (see table 11). This emerged in the survey of 82 households undertaken in 1990.

The notion of a critical herd size is a useful social construct to measure the degree to which household herds are sustainable. Six has been suggested as a figure (Allan 19 67) as has ten (Colvin 1984). This larger figure is probably more reasonable in that it accommodates a range of subsistence purposes. A herd of ten would comprise four oxen (a plough team), one bull (for reproductive purposes), three cows and two calves. In terms of this notion, 35,4% of the *oBivane* sample have fewer than the requisite minimum.

Table 11. Number of cattle per household

No. of cattle	No. of households	
	N	%
0	10	12,2
1-10	22	26,8
11-20	19	23,1
21-30	13	15,9
31-40	11	13,4
40+	7	8,5
Total	82	100,0

While the average number of cattle per household is 18,7, the median is 15. As a measure of differentiation, the top 20% of cattle-owning households surveyed owned 50,6% of the cattle, while the top 10% owned 26,0% of all the cattle. Seven of the ten "original" households are among the top 21,9% of cattle-owning households, and all ten are among the top 37,8%. Nine of the ten recently established households are among those with ten or fewer cattle.

Cattle ownership appears to be a particularly good indicator of a household's socio-economic status. An analysis of those households above the median cattle ownership figure of 15 (32 households, 50% of the sample) indicates that they cultivate 116 (64,8%) of all the fields available to those in the research area, and that they own 83,8% of the cattle. In addition, all but one of the top 14 maize-selling households are in this category. Of the 82 households in the sample, 19 reported selling cattle during 1989. All but two of these households had fifteen or more cattle.

In addition to cattle other livestock, particularly goats, are kept. In the research area 44 of the 82 homesteads did not own any goats, 26 reported that they had between one and ten goats, five reported that they had between 11 and 20 goats while seven said that they had more than 20. One of these households reported keeping 41 goats. Other livestock kept includes pigs (11 households), donkeys (four households), sheep (three households), and horses (two households). All households kept chickens, and some also kept ducks.

One of the earliest investigations undertaken for this study involved asking people about the existence of elements of the cattle complex. According to the available ethnography on the cattle complex these elements include: naming of favourite cattle, a range of terminologies that describe cattle colours and horn shapes, praise songs about cattle, a range of taboos that surround women and cattle, and an emphasis on the accumulation of cattle for the sake of enhancing personal prestige (see Peristiany 1939; Gulliver 1955; Dyson-Hudson 1966; Good 1966; Nyembezi 1972; Torres 1980; Felgate 1982). During focus group discussions with both men and women few of these elements were found to be present.

Nyembezi (1972) lists a range of Zulu names given to cattle colours, combinations of colours and to marking patterns and horn shapes, as do Bryant (1949) and Krige (1957). These names are not so much descriptive as a specific nomenclature. The terminology listed in Nyembezi was read out at a focus group meeting consisting of 12 people (six adult men and six adult women). Few of the terms listed by Nyembezi (1972) were familiar to the members of the group although some of the respondents expressed the opinion that the terms may be used in other Zulu speaking areas. One of the men thought that the terms were used on the south coast of Natal. Respondents

said that in *oBivane* some terminology does exist to signify horn shapes and cattle markings but that these terms are used only to describe the cattle, i.e. they are descriptive (eg. horns point down, a mottled black and white cow, etc.).

The notion of praise songs for cattle, frequently referred to in the literature on people of East Africa (Gulliver 1955; Dyson-Hudson 1966; Good 1966), was generally greeted with mirth although two of the men did claim to have heard of the practise. According to respondents some cattle, particularly highly favoured bulls, are given names. This however is very exceptional and although most herd-owners can recognise their cattle by sight, few go to the trouble of naming them.

It is interesting that some of the taboos that surround women and cattle still seem to persist. According to Krige (1950) two of the most strictly enforced taboos surrounding women and cattle are that most women are not allowed to enter the cattle kraal and that girls are not allowed to herd cattle - except during the custom of *ukwalusa izinkomo* (herding the cattle).[1] According to Krige (1957:188):

> The cattle kraal is a sacred spot; there the beasts are killed for sacrifice, and there, too, the assembled family sings the sib song previous to the departure of a child to the home to be married. It is a spot where no woman, who does not belong to the family may tread, and even one who has married there may not enter till by the death of both parents of her husband she become the mistress of the kraal.

Furthermore, according to Krige (1957:72) "at ordinary times it would be highly improper, if not sacrilegious, for any woman to herd cattle."

In *oBivane* women are generally forbidden to enter the cattle kraal although almost all of the female respondents said that they had been into the kraal. Some said that it was difficult not to go into the kraal for one or other reason when their husbands

were frequently away at their places of employment. A preference was indicated for boys to do the cattle herding, although some women said that they had gone to herd the cattle on occasion and many said that their daughters or sisters were used to herd the cattle when there were no boys available. Fear for the girls' safety was cited as the single most important reason for being reluctant to use them to herd cattle. The sight of girls herding cattle in *oBivane*, although uncommon, is not entirely unknown.

During the focus group interviews people stressed the economic importance and the investment potential inherent in cattle. The story of Cornelius was given as an example of the merits of cattle accumulation.

Case study 13

> Cornelius is arguably the second most important entrepreneur in *oBivane* (second only to Simon; see case study 12). Cornelius is the current household head of one of the 16 original households visible on the 1943 aerial photographs. Cornelius inherited a herd of 65 cattle from his father's estate in 1974. Cornelius, who is employed as a chief security *induna* at a mine in Welkom, built up the herd to 93 cattle by 1985. According to Cornelius cattle prices were particularly high in the region in 1984 - 1985 because the drought of 1980 - 1983 had decimated many herds in Natal/KwaZulu. After the good rains of 1984 the grazing recovered markedly and there was an improved market for cattle. This was confirmed by other residents of *oBivane* and by some of the "white" farmers in the area with whom interviews were undertaken.
>
> Cornelius sold 70 cattle from his herd in 1985 at local and regional auctions.[2] He used the money to purchase a good second hand mini-bus which his brother runs as a taxi from *oBivane* to Paulpietersburg. This taxi, although decidedly second hand by now, still runs a return trip thrice daily. Cornelius also used some of the money to set up the

oYengweni general dealer store that his younger brother runs. This store functioned as the only official store in *oBivane* until Simon's wife established her store early in 1991.

It emerged during the focus group discussions that, far from losing prestige for lowering the size of his herd, Cornelius was applauded for his business acumen.

While Cornelius and his household are perhaps the most striking example of cattle accumulation as a means to generate capital, this is by no means the only example. Many of the households in *oBivane* have reported selling cattle either to meet debts, to generate cash for survival purposes, or to purchase luxury goods. James, for example, sold a cow in 1992 to purchase a lounge suite. Anna sold her husband's cattle after he deserted her to live in Durban, as much to spite him as to generate cash for a number of items she felt she needed. Furthermore, an idea mooted by the *oBivane* Development Committee was that households that could afford to do so should sell cattle to raise money for development projects.

During the focus group discussions the issues of the supposed shortage of grazing and the "tragedy of the commons" was put to the participants. A number of points were raised. In the first place most of the men and some of the women vigorously denied that the area was badly overgrazed. In support of this view a number of comments were made. Firstly, respondents stated that the cattle in the area were healthy and remained so even during the dry seasons. They were obviously not starving. The relatively low mortality rate of cattle in the area and observation of the generally good condition of the cattle, bear this out. This low natural cattle mortality rate was attested to by the local dipping inspector who is resident in nearby *Bhadeni*. The inspector put the low mortality down to the widespread availability of good grazing and proper

management of the rangelands. In this he disagreed with the livestock officer and expressed the opinion that, as the livestock officer lives in Holspruit (some 70km away) and only visits the area very infrequently, he does not really know what the situation is. In addition, the fact that local farmers frequently buy cattle in *oBivane* speaks volumes for their condition.

Secondly, and critical to understanding the whole "common property debate", is that there is no unchecked access to grazing in *oBivane*. Rights to grazing are vested in households settled in the area. During 1990 an instance of an attempt to poach *oBivane* grazing, by herd-owners from *Bhadeni*, was brought to my attention. The incident led to a number of fights in which people from both sides were slightly injured. In the end the point was made, and people from Bhadeni appear no longer to graze their cattle in *oBivane* areas.

Thirdly, and I should emphasise that this was a minority view point, was that if a shortage of grazing did exist it did so because there are too many households with cattle in *oBivane* and not too many cattle per household.[3] Those who favoured this view pointed to an increasing need to graze cattle across the Bivane River on the "white" farms to maintain the cattle in good condition. Most of the other members of the group felt that the grazing across the river was under-utilised anyway, and that while there was a risk involved in poaching grazing it was not a major issue.[4]

The whole notion of land ownership and territoriality is tied up in the struggle between the "white farmers" and those inhabiting the *oBivane* area. Encroachment of cattle grazing onto "white border farms" has long been a issue of great concern amongst many of the farmers belonging to the Natal Agricultural Union (Indicator South Africa 1983). Largely as a result of pressure put on the government by the

agricultural unions, the maximum fine for trespass was raised from R50,00 to R2 000,00 in 1983.[5]

"Poached" grazing does carry with it a certain amount of risk. Although most of the farmers on the Natal side of the Bivane River are frequently absent from their lands, periodic raids are carried out. Cattle caught grazing illegally are impounded and owners have to pay fines to retrieve them. As yet, as far as could be ascertained, the maximum fine of R2 000,00 has not been imposed in the area. A more effective deterrent to "poached" grazing appears to be the recently devised tactic, employed by the Vryheid Stock Theft Unit, to impound trespassing cattle in the pound at *Mondlo*. This is about 80km from *oBivane* and the logistics of returning impounded cattle to the area imply either great expense or a great deal of time.

Along with fire wood the issue of grazing on the "white" farms became a source of heightened friction between residents of *oBivane* and the "white" farmers in early 1993. A meeting was held at which the people of *oBivane* were informed that much harsher measures could be expected to be taken against owners whose cattle were caught on the wrong side of the Bivane River. Subsequent to the meeting Simon, in his capacity as Member of the Legislative Assembly, visited the manager responsible for many of the "white" farms along the Bivane River and something of a compromise was reached. The manager agreed that controlling the cattle during the winter months was difficult and that he would not act against cattle found on the farms under his control during these months. According to local residents it was pointed out to the manager that cattle under his care often cross the Bivane River and graze on the KwaZulu side. Simon's interest in the affair was probably motivated by the fact that he is the second largest stock owner in the *oBivane* area.

A striking feature of the cattle in the area is the existence of Brahmin bulls. The investment in this "exotic" strain reflects a desire by the more affluent households to "improve" their herds according to respondents. This stands in sharp contrast to the notion of a conservative peasantry which is resistant to change. The bulls were bought in late 1983 at the height of the drought in KwaZulu. *oBivane* does not appear to have been as badly hit as most of KwaZulu's other rural areas.[6] With cattle prices favourable the investment in these animals was deemed to be worthwhile. According to Chambers (1984:78):

> For the poorer rural people, exotic cattle are usually either impossible or unattractive as investments. In economic terms they are "lumpy": they come in large units of value which are not divisible when alive and which do not store well when dead....Only households who are already well buffered against contingencies may be sensible to risk exotic cattle.

While it is generally the wealthier household that own the pure bred Brahmin bulls most cattle owning household have interbred their cattle.

Finally, the ways in which the dynamics of cattle management are changed during the year is starkly evident in *oBivane*. During the winter months, and indeed in the post-harvesting season, cattle tend to graze near the river and particularly in the harvested fields. During the summer months a closer watch is kept on the cattle. They are taken up into the hills and kept out of the ploughed fields. While this is certainly good resource management practice it does make differential demands on labour. When labour demands in the fields are high (during spring and summer) so too are the labour demands involved in livestock management. When agricultural labour demand slacks off so does the labour demand involved in tending cattle. While most households appear to have sufficient labour to cope this is not always the case. This becomes particularly apparent when school terms are taken into account. End of year examinations coincide with the peak agricultural labour demand season. This

combined with the labour demand of cattle, makes it difficult for some households to spare children for schooling.[7]

Particularly susceptible to these labour dynamics are smaller nuclear families who may not be able to supervise their cattle at all times. This lack of supervision of the cattle sometimes leads to conflict among households. On a number of occasions I witnessed quite heated exchanges between household members after cattle have wandered into cultivated fields. Again it tends to be the more marginal households that are affected. Wealthier households generally fence their fields and wandering cattle do not present a major threat to their crops. More marginal households which cannot afford to fence their fields are more vulnerable.

In summary one can say that the dynamics of cattle and livestock management in *oBivane* are far more complex and subtle than the KwaZulu agricultural officials would generally have us believe. There is evidence to suggest that local knowledge is such that people who invest in cattle know what they are doing and that people are aware of the problems inherent in overstocking and overgrazing. Notions of the "cattle complex" and the "tragedy of the commons" are not in themselves sufficient to explain livestock management dynamics in *oBivane*.

Fuel wood and energy management

In the absence of access to grid electricity and in circumstances where the opportunity costs of women's labour may be reckoned at an exceedingly low rate of return, wood gathered from the veld (*izinkuni*) remains the primary fuel source. The primary fuel requirements for *oBivane* households are those needed for cooking food and for heat

during the winter months. Some households use fuel in the form of candles, gas or paraffin lamps for light.

One of the striking aspects of the resource base in *oBivane* is the degree to which the availability of fire wood resources has decreased in the years between 1989 and 1993. At the time of my first visits to *oBivane* a standard practise was to gather fire wood or to purchase fire wood from households who had stockpiled wood to meet fuel needs. Since then it has become more and more difficult to find accessible stores of fire wood and the price of purchased wood has increased dramatically. The situation has become such that it now makes sense to bring wood or charcoal, purchased in Piet Retief or Paulpietersburg, into the area. The most important fire wood comes from trees of the *acacia* species particularly the *acacia tortilis* or the "camel thorn". In *oBivane* this tree is popularly referred to as the *umkhambathi.*

The declining accessibility of fire wood is evident to most people in *oBivane.* At a focus group meeting with 12 women the problem of access to wood for fuel was unanimously regarded as the primary natural resource problem in the area. The only other resource problem that was deemed to be of prime importance was access to clean water. Generally lack of access to wage income was regarded, by the members of the focus group, as the primary problem for the residents of *oBivane.* This was seen as the primary cause of poverty and many of the other problems were associated with this state of poverty.

While women bear the burden of gathering wood and suffer the most immediate consequences of a depleted store of wood, this problem was also regarded as a serious one by the members of a male focus group.

Although it is almost unanimously acknowledged that the store of fire wood is being depleted there are a number of subtle dynamics to the situation. These are pointed out below.

Firstly, while most households in *oBivane*, rich and poor, are dependent to some extent on wood for fuel this dependency diminishes among the wealthier households. As one would expect wealthier households appear to use a range of fuel sources. Case study 14 below illustrates this.

Case study 14

> Nomsa (Simons wife, see case study 12) has both a charcoal/wood stove as well as a fairly recently acquired paraffin stove in her kitchen. Most of her cooking is done on the paraffin stove. Nomsa cites the convenience of access to paraffin as the major factor persuading her to choose it as her primary fuel source. She uses the wood stove on occasion but this is generally only when she has run out of paraffin. Nomsa gets her paraffin from her husband Simon who purchases supplies in Paulpietersburg and drops them off either weekly or fortnightly. Until recently the *oYengweni* store in *oBivane* did not stock paraffin and those who wished to purchase it had to do so from the Hartland store or from further afield.

While Nomsa is generally reliant on the paraffin stove for daily use she does make use of wood for cooking purposes on special occasions. At a feast recently held at the household Nomsa supervised the cooking which mostly took place on open fires set up in the courtyard outside the house. For this Nomsa purchased fire wood from a contractor in *Tholokela* (some 12km away) and supplemented this with wood gathered locally.

In contrast to the wealthier households, who have some access to energy alternatives, primarily paraffin and gas, most marginal households have to rely on locally gathered wood.

Case study 15

> Anna (see case study 10) relies almost exclusively on wood for all of her fuel requirements. As Anna is resident on Belemmerd her nearest major source of fire wood is on Pivaanspoort. From Anna's home to the scrub/forest area and back is a walk of approximately two and a half hours (about seven km). This journey is made even more difficult as the walk back from the wood-gathering area to the homestead is steeply uphill. Approximately an hour to an hour an a half is spent in gathering the fire wood.
>
> Anna and at least two of her grandchildren make the journey approximately twice a week. In total the household spends approximately 24 labour hours in gathering and transporting wood each week. Each load of wood weighs between 20kg and 40kg. The household consumes about 180kg of wood per week. This is about 9 tons of wood per year or about 585kg per capita per year.

Eberhard (1986) estimates that the per capita consumption of fire wood in South Africa's rural homeland areas is about 500 to 800kg per year. The figures generated for *oBivane*, although the loads were not as meticulously weighed as in Eberhard's study, are similar. Eight households were asked about their fuel wood gathering activities in detail. During interviews and by cross checking with the aerial photographs it emerged that members of the households (mostly women) walked an average of 5.5 km on a round trip to gather one headload of fire wood. The range was between 1km and 12km. This is a little less than Gandars' (1984) average of 8.3km for grassland KwaZulu and a little more than the valley lowveld average of 3.6km. In one sense the

figures are to be expected for *oBivane* as it is an ecological transition zone between highland grassveld and the valley lowveld.

Although these figures are interesting, "length of time taken to gather fire wood" may not be a reliable indicator of (sub)regional wood scarcity unless the figures are generated by a longitudinal study that demonstrates that the time taken to gather fire wood in a particular area has increased. It appears that the length of time it takes to gather fire wood is almost as much a function of the ordered settlement patterns in *oBivane* as it is of scarcity. In *oBivane* households are explicitly forbidden to settle in the densely wooded area. According to the local *induna*, those wishing to build a household may not chop down trees to clear a site. They may however clear scrubland. This effectively prevents households from settling in the woodland areas which are generally located along the banks of the rivers and in the "kloofs" and crevices between the hills. Again, according to the *induna* this is done as a form of resource management and in order to protect the sources of fire wood for everyone and to disallow preferential access to wood. This means that collecting fire wood will inevitably entail walking some distance for those household members tasked to do so.

Secondly, although "time taken to gather fire wood" may not be a good indicator of scarcity, it is a reasonably good indicator of the opportunity cost of labour, particularly women's labour, in terms of time. Better indicators of scarcity of fire wood in *oBivane* are the perceptions of women themselves that wood is becoming more difficult to gather and the fact that wood is being cut/chopped from the trees. According to focus group interviews the "traditional law" governing fire wood harvesting is that only "dead wood" should be gathered. In other words people gathering fire wood should ideally be able to do so without having to use a saw or axe. The word for fire wood, *izinkuni*, literally means dead wood, or wood that has broken from the bough and lies on the

ground. This is distinct from *ukhuni* which is the word for wood used as a material in construction. In *oBivane* there is common recognition that this system of only using *izinkuni* has broken down and that the fire wood sources are being depleted. During the focus group interviews the blame for this is was placed on the increased demand for fire wood in the area which was directly related to an increase in the number of households in *oBivane* and the fact that, according to one respondent, those

> people who used to get *izinkuni* from across the river (labour tenants) now live here and must get their *izinkuni* from our places. We used to be able to get *izinkuni* from the place of *amazambane* (popular nickname of the "white" who manages many of the farms across the Bivane River) but now we are chased away.

In May 1993 a meeting was held between the manager of the "white" farms across the Bivane and the people from *oBivane*. The manager informed the people of *oBivane* that he would no longer tolerate people harvesting firewood on his farms. He has started to fence the farms along the river and has employed security personnel to keep people away.

While there is a great deal of merit in the line of reasoning that equates increased demand for fire wood with depleted resources and it almost certainly accounts for most of the scarcity a second argument may be ventured. The fact that people have extremely restricted access to alternative sources of fuel combined with the low opportunity costs of women's labour makes the gathering of fire wood the most rational choice in terms of energy management strategies. Here again Blaikie's (1985) model (outlined in Chapter Two) is useful. The low wage returns mean that most households cannot afford to purchase paraffin (the only readily available alternative). Even among those households that can possibly afford to buy paraffin on a regular basis, the time taken by women to gather fire wood probably does not exceed the

return which could be expected from investing labour time in another pursuit. The exceptions are women like Nomsa who maintains and operates a fairly lucrative agricultural business and a fairly lucrative spaza shop. For her the savings that would be generated by gathering fire wood herself do not warrant the time she would have to invest in the pursuit.

With so many people relying exclusively on fire wood (almost 80% of the *oBivane* sample of 82 households[8]) this avenue of exploitation has become, in Blaikie's (1985) words, "oversubscribed" and is contributing to environmental breakdown. As a corollary the possibility does exist that the opportunity costs involved in gathering fire wood will increase as the veld becomes more denuded and more households will be driven into using alternative sources of fuel. The speed at which this takes place, however, depends largely on more value being attached to women's labour and increased household incomes.

In summary however, it may be contended that it is the expansion of households on a restricted land base that is primarily responsible for elements of resource degradation in *oBivane*. Particularly important to note is the fact that this household expansion has been taken place within the context of a geographically reduced resource base. In other words labour tenants, and residents of *oBivane*, who have enjoyed access to grazing and fuel resources on the "white" farms no longer do so. This places added pressures on the *oBivane* resource base.

CHAPTER SEVEN END NOTES

1. According to Krige (1950:72) "Another custom observed when diseases were known to be prevalent was the *ukwalusa izinkomo*, the herding of cattle by the girls. Nowdays this is part of the *Nomkhubulwana* ceremonies of springtime, but we are told that in the old days no special season of the year was set apart for this custom. On a certain day the girls, dressed in their brother's loin-covering (*umutsha*), and carrying sticks and small shields, take out the cattle to the veld where they herd them all day". In *oBivane* the ceremony was known but has apparently not been ceremonially practised, according to respondents, for many years.

2. This was confirmed by examining Cornelius's dipping record book which shows a decline in herd numbers from 83 to 23 animals over a period of approximately five months.

3. Interviews done in May 1993 with the last three households to arrive in *oBivane* (all evicted labour tenants) revealed that two of the three households brought cattle with them. While local interest groups are able to resist allocating agricultural fields to new households they cannot easily restrict the flow of cattle into the area. This along with the increased demand for firewood are the two greatest threats to the local environment generated by the influx of people into *oBivane*.

4. In the light of the recent spate of immigration into oBivane there are signs that this attitude may be changing. The opinion that there are too many households with cattle in the area may become more widely held.

5. This was communicated to me by the commander of the Vryheid Stock Theft Unit of the South African Police.

6. This was told to me in an interview with a shop owner in the nearby settlement of Hartland. He keeps a rain gauge.

7. This was confirmed in an interview with the principals of both the nearby primary and secondary schools.

8. This compares to the 33% of households in the Cornfields sample who used fire wood as their only energy source (AFRA 1991).

CHAPTER EIGHT: TERRITORIALISM AND SPECIALIST RESOURCE MANAGEMENT - A CASE STUDY OF THE "*iziNYANGA*" IN *oBIVANE*

> The herbal medicine trade is a multi-million rand 'hidden economy' in southern Africa, and nowhere more so than in than Natal/KwaZulu region (Cunningham 1989:51)

In *oBivane* the *inyanga* (herbalist/medicinal healer) plays a central role in the lives of people denied easy access to a wider range of health services. The *izinyanga* also play central roles as resource managers. They possess a great deal of knowledge about their environment, particularly about the local flora, and they are regarded locally as environmental experts although they are frequently ignored within official discourses of conservation and development.[1] Furthermore, as will be shown they are central to the struggle to preserve biodiversity in the area. This chapter presents a case study of the *inyanga* as a resource manager possessing a specific knowledge, having an interest in conservation and, regulating territoriality over communal resources.

Unlike the diviner (*sangoma*) whose primary source of power is regarded as emanating from the "intercession of the ancestors" the *inyanga's* practise is based on the treatment/prevention of ailments through the utilization of physical remedies. In *oBivane* the *izinyanga* make use of a range of floral and faunal species to create their medicines (*muti*) with which to treat their patients.

Belief in the healing powers of the *izinyanga* is widespread and seems to transcend sex, the generations, and religious affiliation. Interviews with the two best known and most frequently consulted *izinyanga* in *oBivane* demonstrated that both were kept fairly busy

running health service practises. One of the *izinyanga* reported seeing a patient at least every day while the other reported seeing about two to three people a week.

This is not surprising given that the nearest clinic is approximately 25km from the closest part of the research area and about 35km away from those people in the remotest parts of the research area. Furthermore the *Itselajuba* hospital (on the road between Piet Retief and Pongola) is about 110km away by road with the Vryheid hospital at a similar distance. For people with little access to transport in an emergency situation, and little in the way of financial means to spend on public transport, the *inyanga* is by far the most accessible health resource.

However, it appears that it is not only the accessibility of the *izinyanga* that makes them a favoured health resource but also the manner in which they go about treating people. Many respondents expressed dissatisfaction about the way in which they were treated by doctors at the hospitals saying that the doctor had "little time for them" seldom bothering to discuss their illness or treatment. The *inyanga* on the other hand is someone well known to them and a person who takes the time to discuss their case in detail.

For the most part the *izinyanga* collect the plant and animal species that they use in their *muti* (medicine) from the veld. Collection occurs either via an organised expedition in which the *inyanga* will spend a full day travelling to those parts of the area that he knows contains the species that he needs, or he will collect species during the course of other activities that bring him into the proximity of the species. More rarely, however, people who happen to come across species that they know the *inyanga*

wants will bring them to his household. By way of an example an inventory of the items kept by a local *inyanga*, and displayed on a single visit, is listed in table 12.

Table 12 Inventory of items kept by an *inyanga*

ITEM	REPORTED USE
imPepho (sp. unkown, a herb)	According to the *inyanga* interviewed, the *imPepho* brings good luck when burnt. Bryant (1983) also records the use of *imPepho*, but he relates that *izinyanga* used it as one of the ingredients in eye drops used to treat inflammation of the eye.
inGuduza (sp. unknown, leaf of the plant)	The leaf of the plant is dried and brewed. The brew is then drunk as a beverage. It is said, by the respondent, to aid in cleansing the kidneys. Bryant (1983) records the use of the bulb of the plant as one of the many remedies for stomach or intestinal complaints.
isiNwazi (Cissus cuneifolia: a species of climber of which the tuberous root is used)	According to the respondent it is given to pregnant women so as to induce labour. Bryant (1983) reported similar usages for *isiNwazi* i.e. to induce the birth of a child, and also to treat menstrual disorders.

umNyamathi (Ekebergia capensis: The bark of this tree is used)	The bark is ground and mixed with ground animal bones. The mixture is used for the treatment of a number of minor illnesses, including stomach complaints. Bryant (1983) reports that the bark is used to relieve heartburn, and that the chopped and dried leaves are used as a purgative for cleansing the bowels and intestines of parasites.
iKhatozo (Alepidia amatybica)	The ground root of this plant is used in a mixture with the ground root of the *iKhothovu* plant to make a medicine that is used to cure coughing or chest complaints, according to the *inyanga*. In addition the root of the *uBhubhu* shrub (Chroestylis rhomnoides) combined with the bark the *inGwavuma* tree (Pseudocassine transvaalensis) and the root of the herb *umHlazi* (Gladioulus auronticus) is ground, boiled, drunk by the patient and then vomited so as to clean out the chest.
umKhabeni (Sp. unknown, ground tree bark)	The bark is ground and mixed with an *iBungane* (generic term for flying beetles) is utilised to treat sterility.
Mavubuka (species of toadstool)	Used to treat upset stomachs according to the respondent.
uChakaide (a mongoose)	The animal is skinned, and the dried pelt is burnt and inhaled by the patient. This is used as a treatment for mentally disturbed people.
uXamu (Leguvane)	According to the respondent the skin of the leguvane is used in a number of mixtures in order to strengthen the mixture.

imBululu (puff adder) and *imFezi* (black-necked spitting cobra)	The fat from these snakes is used to add potency to medicinal mixtures. The fat of the leopard is used for the same purpose. However the respondent stated that the medicine being used determined which of the animal fats was combined to strengthen the mixture.
Ground vertebrae of a vulture	The ground vertebrae are apparently ingested and are said to strengthen a person who is weakened from illness.
Skin of a Mole.	Apparently the skin of the mole is burnt in the cattle kraal and is said to help a beast that is ailing.

In addition to the above, the following methodology was used to ascertain the availability of species of flora found in the area, and the medicinal properties ascribed to them. Two of the I*zinyanga* (referred to as Tim and Mtshali) generally regarded as the most knowledgable, and therefore most prominent in the area, were interviewed on separate occasions. Bryant's book "Zulu medicine and Medicine Men" (1983) was used to design the questions asked. The appendix at the back of the book lists 240 Zulu medicinal plants. By reading the list to the *izinyanga* on separate occasions, and correlating the information, a list of the fauna with medicinal properties that they identified was compiled. There was almost complete overlap between the species that the two individuals regarded as being present in the area, and of the species' medicinal use. This is not really surprising as the one regards himself as something of a journeyman *inyanga* with the other being acknowledged as the master. Some disagreement as to present availability of the species in the area did occur and it is the disappearance of the species that is of central importance to the *izinyanga* as resource managers.

Table 13. Floral species with medicinal properties in *oBivane*

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
umBangandlala (Heteromorpha arborescens).	According to Bryant the plant is used in the treatment of Scrofula.	According to Tim the plant is no longer available in the area as it has been denuded from the veld. Mtshali disagreed saying that although it is very rare, it is found in isolated patches. Both said that the plant is used as an ingredient in a sedative given to those who are mentally disturbed.
uBangalala (Sp. unknown)	According to Bryant the root of the herb is used as a treatment for urinary complaints, impotence or barrenness.	Both Tim and Mtshali concurred with Bryant.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
isiBhaha (Warburgia salutaris).	The ground bark from this tree is used in a number of remedies according to Bryant, ranging from that for a cough to rheumatism and impotency.	Both Tim and Mtshali agreed that the ground bark is used in a variety of mixtures, but Tim emphasised that it has a general cleansing property, particularly in cleansing bad blood that is said to bring about a variety of ailments. Mtshali stated that this species was becoming very rare in the area and that he was now attempting to grow it in his own garden. Cunningham (1989) notes that this is as a scarce medicinal plant species and states that the price per bag had increased amongst Natal and Transvaal wholesalers from R5 a bag in 1960 to R120 a bag in 1980.
imBhozisa (Sp. unknown).	Bryant Says that the root was used in the treatment of colds and Influenza in the past.	This plant is no longer available in the area according to both Tim and Mtshali. Both were in accord with Bryant's description of its uses.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
iBhucu (Bulbine Natalensis).	The leaves of the plant are used in the treatment of venereal diseases according to Bryant.	Tim knew of the plant but said that it was no longer available in the area. Mtshali agreed that it had been overexploited, but was able to show me a few of the plants that he had cultivated in his garden. He said that he used the leaves in the treatment of wounds.
iBhuma (Cypreus sp.).	The roots of this bulrush are used in the cure of impotency and barrenness according to Bryant.	Mtshali stated that he used the roots to treat kidney problems, while Tim said that he used it as a sedative.
iBohlololo (Senecio Speciosus).	The ash from the burnt leaves and stalk of this species are rubbed into an incision in the chest in the treatment of chest complaints according to Bryant.	Both Tim and Mtshali agreed but Tim added that it could also be used for internal cleansing, while Mtshali said that he used the finely chopped leaves in a treatment for constipation.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
iCimamlilo (Pentanisia variabilis).	Bryant lists a variety of uses of the plant. These include the treatment of piles, gangrenous rectitis, rheumatism and paralysis.	Mtshali stated that he used the ground roots to prevent complications in women giving birth, while Tim said that he used it to treat abdominal pains.
umDabu (Elephantorza sp).	According to Bryant the roots of this shrub is used in the treatment of heart complaints.	Both Mtshali and Tim agreed with this. Used in a similar fashion to *iBohlololo* the dried roots are ground to a powder and rubbed into a chest incision.
umDakane (Apodytes dimmidiata).	According to Bryant the root bark is used for ridding a patient of intestinal parasites.	Both Tim and Mtshali agreed but said that it was no longer available in the area.
isiDikili (Lasiosiphon sp.).	Bryant indicates that roots of this plant are used in treating the pox caused by smallpox, ophthalmia, and snake bite.	While Tim said the plant was no longer available, Mtshali said that it was difficult to find, but there were still some specimens left. Mtshali said that he mainly used the ground roots in a mixture to treat impotency.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
iDlebelendlovu (Trimeria alnifolis).	Bryant says that the leaves are used to treat a broad range of intestinal/abdominal complaints.	While Tim agreed with this, Mtshali said that he also used it to treat earache. Apparently, a little of the sap is placed in the ear.
iDungamuzi (Euclea lanceolata).	According to Bryant used to treat intestinal complaints and dropsy.	Both Tim and Mtshali indicated that it was a species that had extremely negative connotations and was used only by *isangoma*.[2]
umGanu (Sclerocarya cafra).	Bryant says that it is used in the treatment of Gangrenous rectitis.	Mtshali and Tim reported that they used it to induce vomiting in patients so as to cleanse the stomach of the "bad bile" said to cause an illness.
uGodide (Jatropha hirsuta).	Bryant reports that the root is ground and sprinkled on a wound to aid healing.	Both Mtshali and Tim agreed with Byrant.
umGxamu (Schotia brachypetala).	Bryant reports that it is used in treating dysentery and diarrhoea.	Both Mtshali and Tim said that it was used to induce vomiting.
uHlonyone (Artemisia afra).	Bryant states that the root is used to treat febrile complaints.	Both respondents agreed but stated that the tree is no longer available in the area.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
iHlunguhlungu (Veronia corymbosa).	According to Bryant it is used in the treatment of chest complaints and impotency\barrenness.	Both Mtshali and Tim stated that it was used by them to induce vomiting and Mtshali added that he used it as an ingredient in a sedative.
umHlwazimambha (Sp. unknown).	Bryant reports that this is used in the treatment of impotency\barrenness.	Although both Mtshali and Tim were aware of the plant Mtshali denied that it had any medicinal value while Tim stated that it was used only by *isangoma* to induce vomiting.
uKhalimele (Rhynchosia sp.).	Bryant states that the plant is used in the treatment of headaches. According to Mtshali it is used as mild sedative.	Tim said he knew the plant but did not utilise it for medicinal purposes.
umKhokha wehlathi (Ipomoea ficifolia).	Bryant reports that this is used in the treatment of stomach and intestinal complaints.	Both Mtshali and Tim agreed but stated that the plant was no longer available in the area.
isiKhwa (Sp. unknown).	According to Bryant this tuber is used to treat piles.	Tim and Mtshali agreed, but stated that it was no longer available in the area.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
iKolo (Grewai occidentalis).	According to Bryant the plant is used to treat impotency/barrenness.	While Mtshali stated that he occasionally used it as part of a mixture for this purpose, Tim said that he did not know its use.
inKomfe (Hypoxis sp.).	Bryant states that the plant is extremely poisonous and occasionally used to treat intestinal parasites.	Both Mtshali and Tim were aware of its poisonous nature. Mtshali stated that he had used it in the past for external use only, i.e. to treat wounds. Both stated that it had long since been denuded from the environment.
inKuzwa (Sp. unknown).	Bryant says that the leaves are part of a treatment for intestinal parasites.	Both respondent agreed.
iLabatheka (Hypoxis latifolia).	According to Bryant this is a highly poisonous species used for a variety of remedies.	Mtshali and Tim were aware of its properties and said that it was used only by *iSangoma*. In addition they reported that it was no longer present in the area.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
umLahlaleni (Sp. unknown).	The bark of this tree may have been used in the treatment of urinary complaints according to Bryant.	According to Tim however the leaf of the tree is used to bring the spirit of a homestead member who has died away from home back to the homestead. Mtshali reported that the bark was used in a mixture designed to induce vomiting in the patient. This is another species that Cunningham (1989) notes as scarce and demanding ever increasing prices amongst wholesalers.
uLimiliwenkomo (Berkheya sp.).	Leaves of this species are used in the treatment of urinary complaints according to Bryant.	Both Mtshali and Tim were aware of the species, but were vague as to the actual usage. Mtshali said he knew it was used by some people, but had never used it himself, while Tim thought it may be used to induce vomiting.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
umLomomnandi (Sp. unknown).	According to Bryant the leaf of the *umLomomnandi* is used to treat any "general constitutional derangement of a febrile and generally infectious nature" (1983:51). The treatment for these kinds of maladies generally consists of a mixture to administered as a emetic, enema or purgative.	Both Mtshali and Tim agreed with this description of the use of species and emphasised its usage in internal cleansing. Mtshali said that he frequently used it in the treatment of skin outbreaks caused by "bad blood".
umLulama (Sp. unknown).	Bryant states that the root is used in the treatment of rheumatism.	Mtshali said that he knew of the roots use as described by Bryant, but had never used it in this manner himself. Both Mtshali and Tim said that the leaf of this tree is used in ritual washing of household members after the death of a family member.
uMabusanu (Capparis gueinzii).	Used, according to Bryant in the treatment of coughs.	Both Mtshali and Tim agreed with Bryant.
uMagugu (Maesa sp.).	Bryant indicates that berries of this plant are used to purge the body of intestinal parasites.	Mtshali and Tim agree, but say that the plant is no longer found in the area.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
uMahlabekufeni (Croton gratissimum).	According to Bryant it is used in the treatment of stomach complaints, chest complaints, urinary and uterine disorders.	Both respondents agreed that the tree had a wide variety of usages and included those mentioned by Bryant. Both stated that the tree was no longer available in the area.
uMaphipha (Sp. unknown).	The bark of this tree is utilised in the treatment of dysentery and diarrhoea according to Bryant.	In addition to the usage mentioned by Bryant, Mtshali said that he had used it as part of a mixture to "clean bad blood". Although both *izinyanga* stated that the tree was no longer found in the area Mtshali said that he knew of trees in the Coronation area and he occasionally obtained bark from there.
uMondi (Chlorocodon whitei).	Chewing this plant is, according to Bryant, one of the remedies prescribed for indigestion.	Both respondents agreed, and Mtshali said that he also gave it to patients recuperating from an illness to improve their appetite. This was another plant that both mentioned was no longer available.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
isiNama (Achyranthes avicularis).	According to Bryant it is used in the treatment of stomach complaints, and for skin diseases, wounds and sores.	Both respondents agreed with Bryant.
uNdwendweni (Eulophia arenaria).	Used, according to Bryant, in the treatment of barrenness and impotency. This is another of the species that is apparently no longer available in the area.	Both respondents agreed with Bryant.
umNukambhiba (Clausena inaequalis).	Used to treat intestinal parasites according to Bryant.	Both Mtshali and Tim concurred. In addition Mtshali said that he used it to make a potion that would heal family rifts.
uQhume (Hippobromus alatus).	Highly poisonous according to Bryant.	Tim and Mtshali said that they knew it was dangerous and used it in very small quantities to induce vomiting.
isiQunga (Andropogon marginatus).	Used to purge the body of intestinal parasites according to Bryant.	Neither of the respondents were aware of this use but said that the leaves of the plant were used in the same manner as *umLulama* for ritual washing after the death of a household member.

NAME	USAGE ACCORDING TO BRYANT (1983)	USAGE IN OBIVANE
umSenge (Cussonia spicata).	Bryant indicates that the species is used as part of a bile emetic.	Mtshali and Tim agreed, stating that it was only used to treat children.
umSintsi (Erythrina caffra).	Bryant reports that it is used to treat earache. Other uses reported by Bryant include the usage of the leaves in a mixture that is applied to the skin as a counter-irritant.	Both respondents described the usage of this species as treatment for earache.
unThuma (Solanum sodomoeum).	Bryant reports that the bark of this tree is used in treating venereal disease and impotency and barrenness.	Tim said that he used the leaves to apply to septic wounds, while Mtshali said that the dried leaves were also burnt for ailing cattle to inhale.
inTolwane (Elephantoriza Burchellii).	According to Bryant it is used to treat febrile complaints and dysentery.	According to Tim used to treat coughs.
inTsangu (Cannabis sativa).	Used to relieve a closed chest and coughs according to Bryant 1983.	When respondents were asked about its properties they laughed, but Mtshali did say it was used to treat coughs on occasion.

In addition a number of other species listed by Bryant (1983) were recognised by the respondents, but they denied that they had any medicinal properties. These include

imFeyenkala: (Dissotis incana), *inDawolucwatha* (Sp. unknown), *inGqaqabulani* (Smilax kraussiana), *umGugudu* (Sp. unknown), *uHlakahla* (Sp. unknown), *umKhovohi* (Chaetachme aristata), *umKhuhlu* (Trichilia emetica), *uMadlozana* (Sp. unknown), *uMathunga* (Cyrtanthus obliquus), *isiNdiyandiya* (Bersama lucens), *uNgazi* (Sp. unknown), *iNqayi* (Elaeodendron volutinum), *umNyezane* (Dovyalis rhamnoides), *iSundu* (Phoenix reclinata), *umSuzwani* (Lippia asperifolia), and *uybuVimbha*, (Withania somniferos).

Much of the explanation for the disappearance of species of medicinal flora given by the two *izinyanga* interviewed revolved around outsiders coming into the area with vehicles and teams of pickers to gather as much of certain species as possible. The rise of this phenomenon is noted by Cunningham (1989) who relates it to an increasing urban demand for "traditional" medicines.

According to the respondents, the people resident in *oBivane* recognised this danger and organised themselves to keep these people out. By chasing people away the delineation of who was entitled to these resources was made clear. Mtshali, the senior *inyanga* in the area, was instrumental in organising local people to keep the outsiders away. Consequently, some territoriality was imposed on the resources. Hames (1987) sees the development of territoriality as crucial to the conservation of resources. This is something of a corrective corollary to the "tragedy of the commons" thesis discussed earlier. Through an imposition of territoriality the extent of access to common property resources is contextualised. This contextualisation imposes rules and regulations regarding the permissible extent of exploitation of the resources. It promotes an active awareness as the value of the resources and the necessity of preservation of the resources for the common benefit of those entitled to their use.

However, a second explanation for the disappearance of many of the species was also mooted and this may prove more difficult to control. As Mtshali put it

> People who need to pay for trips to Johannesburg or Durban so as to look for work, often take with them herbs and plants. In the townships they can get a good price for them. This helps to pay for the expense of looking for work.

This kind of exploitation, less dramatic than the first but in the long term as devastating, reflects a specific case of the articulation between the local resource base and the wider economy.

A third causal link in the denudation of some species from the veld was given by respondents at the level of extent of local knowledge. The medicinal properties of certain species, particularly those used to treat common ailments, are apparently well known. Many people utilise these species and they have become scarce. However, the realisation of their scarcity and the labour cost involved in spending a great deal of time searching for them, has prompted some people to grow species with medicinal properties in their gardens. This has positive implications for species conservation.

A fourth reason for the scarcity of some species lies with the expansion of the agricultural endeavour in the area. As previously noted, the increasing population and accompanying demand for resources on a static land base has led to the clearing of lands of natural vegetation for the purposes of agricultural cultivation. This has almost certainly led to the thinning out of certain of the species of flora. Furthermore, the increase in land under cultivation has decreased the amount of land under grazing which has almost certainly also led to species denudation. The increased demand for

fire wood has had a similar effect in that many trees with medicinal properties are also used for fire wood.

For the *izinyanga* this situation seriously affects their ability to operate effectively. Some of the species no longer found locally are available for sale in Paulpietersburg, but this is an expensive option. Other species have, to be imported from the PWV area and this is seldom economically viable. In addition the amount of time that must now be spent in gathering the plants (many of the species are gathered from the remoter areas of the "white farms" across the river) means that the amount of time is becoming disproportionate to the amount of revenue that the *inyanga* can acquire from the sale of his services.

The realisation of the threat inherent in these kinds of process by those most directly affected by depletion of this natural resource promotes certain conservation strategies. Mtshali and Tim, in order to avoid bearing the full costs of degradation to their livelihood, now grow many of the species locally threatened with extinction in their own "herb gardens". Mtshali's residential site is particularly striking for the number of floral species that are grown in the immediate vicinity of the homestead. The following are some of the species that Mtshali reported that he grew in his garden: *iBhucu*: (Bulbine Natalensis); *iBohlololo*: (Senecio Speciosus); *isiDikili*: (Lasiosiphon sp.); *umGanu*: (Sclerocarya cafra); *uKhalimele:* (Rhynchosia sp.); *inKuzwa*; (Sp. unknown) *umLahlaleni*; (Sp. unknown) *uMabusanu:* (Capparis gueinzii); *unThuma:* (Solanum sodomoeum);

The need for control and conservation of these species was strongly voiced by Mtshali who showed considerable concern at the rapid depletion of the store of medicinal

resources. In this regard both Tim and Mtshali act as conservationists who concern themselves directly with the problems of protecting species-diversity in the area.

CHAPTER EIGHT END NOTES

1. In Zulu the word *inyanga* means both "moon" and "herbalist". However, it also popularly applied, in oBivane, to denote an expert in a particular field.

2. In this instance both Tim and Mtshali were referring to *isangoma* as "witches" acting to cause people harm.

CHAPTER NINE: CONCLUSION

Environmental degradation is widely regarded as an integral part of South Africa's homeland areas. Conventional thinking often blames so-called traditional farming practices, attitudes and values for this situation. In other words, the blame is placed with the residents of the areas and environmental degradation is explained away as the result of a particular cultural make-up. Following this line of thought, education via agricultural extension is mooted as the primary solution to what is regarded as an inherent problem.

The central concern of this dissertation has been to examine the dynamics of natural resource management by residents of *oBivane.* It has been demonstrated that the conditions leading to environmental degradation are best seen as the result of particular historical and political processes and not simply as the results of particular patterns of behaviour that are culturally driven. These processes, given primary impetus by massive population influx onto a restricted land base and combined with the peculiarities of differential access to resources and the need to preserve the interests of elite groups, have forced sectors of the South African population into situations where physical survival has necessarily had grave environmental cost. One of the consequences of apartheid policies has been to institutionalise environmental degradation in particular areas of the country.

Furthermore, it has been demonstrated, using *oBivane* as a case study, that environmental degradation takes on different forms and is not a universal phenomenon in the "homeland" areas. The notion of relatively homogeneous homeland environmental degradation is something of a caricature. This dissertation has shown that, while the wider area of Simdlangentsha has been subject to the

massive population influxes characteristic of many of the homeland areas of South Africa, *oBivane* has been protected, until very recently, from many of the effects of removal and resettlement. This was largely achieved through the ability of local interest groups to restrict access into the area and to limit the allocation of land to immigrants. Certain interest groups in *oBivane*, have been able to influence sub-regional patterns of relocation to an extent and have not merely been passive victims of the apartheid planning.

In *oBivane* the relatively low influx of people into the area has ensured that aspects of the "traditional" land management system has remained intact. Contrary to what is believed by many agricultural officials these land management practices have ensured a level of conservation of the resource base.

However, *oBivane* is not an isolated oasis in a desert of degradation, and the forces that have led to general environmental breakdown in many parts of other "homeland" areas are beginning to appear. The process of resettlement of immigrants from "white" areas into the research area is not yet complete. Furthermore, the primary grouping that has restricted access into the research area in the past (the *inkosi* and senior members of the *libandla*) no longer share as great a concern for protecting the resource base and therefore the area is subject to an unprecedented influx of new settlers.

The resulting population increase, fuelled as much by "natural" population growth and household fragmentation as by the influx of farm-workers and labour tenants into the area, is generating a demand for the conversion of relatively marginal communal land into household agricultural land. This in turn is reducing the grazing cycle so that more livestock must be accommodated on a shrinking land base. Allocation of fewer

fields per household is restricting the farmers' options to allow some fields to lie fallow and is leading to a decline in soil fertility. Declining fertility is leading to an increased dependence on chemical fertiliser which in turn increases the cultivation cost of fields.

This process is given further impetus through its articulation with the socio-economic differentiation among *oBivane* households. Certain households can no longer afford to cultivate their own fields and consequently lend them, on a contract basis, to those who can afford to cultivate. This in turn is leading to a degree of agricultural commercialisation which has consequences for sustainable land management practices. A situation has been created whereby certain households cultivate land "rented" to them on an intensive basis but with little incentive to invest in the long-term sustainability of that land.

Something of a rearguard action is being fought by local interest groups, primarily the land allocation committee, and the process of allocation of new land has been halted for the time being. While the land allocation committee has the power to restrict further allocation of land they are apparently powerless to prevent new people moving into the area. Although new settlers are not allocated fields they frequently bring cattle with them. This increases demand for grazing and is leading to degradation of the veld. This, more than the "question of the commons", seems to be the greatest threat to communal pastures in *oBivane*.

Furthermore, the expansion of the population in the area has led to an increased demand for fire wood, and a local crisis in terms of access to fuel resources is beginning to occur.

Further rearguard action is being fought by some of the specialized resource managers in *oBivane*. The *izinyanga* are particularly important in this regard. With their livelihood dependant, at least in part, on access to a wide range of floral species with medicinal properties, they are attempting to maintain biodiversity in the area.

The effects of the environmental degradation created through the "homeland" system will be with us for many years and, as the *oBivane* case study demonstrates, the process of increasing degradation has probably not yet run its course. While certain local level remedies may be prescribed these remedies will address symptoms of the problem rather than the cause itself. In essence the problem is a political one and solutions (if at all possible at this stage) will have to be found at a national political and economic level.

Politicians and planners should rather be looking for solutions that address not only the immediate problems of environmental degradation but also the larger problems of poverty, alienation, impeded access to education, and marginalisation, all of which contribute to, and reinforce, an integrated problem. The fight against environmental degradation in the rural areas is essentially the struggle against poverty and inequality.

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