A historical review of land and water use in the Orange-Fish River Basin, Namibia

Wolfgang Werner
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Ephemeral River Basins in Southern Africa Project

Ephemeral River Basins (ERB) in Southern Africa is a project that promotes the sustainable, equitable and improved utilisation of water and other natural resources in ephemeral river basins in Southern Africa through the process of integrated resource management (IWRM). Although IWRM is accepted internationally and regionally as the approach promoting sustainable management of water resources and the river basin is considered the ideal unit over which to apply it, the basin management approach has not been widely tested and implemented in ephemeral river basins in Southern Africa.

The ERB in Southern Africa Project, however, explores the potential and options for basin management in three ephemeral river basins in Southern Africa - the Boteti, an outflow of the Okavango Delta, in Botswana, the Buffels, a westward-flowing ephemeral river in the Northern Cape, in South Africa and the Fish River Basin, a tributary of the Orange River, in Namibia.

Despite being ephemeral, all three river basins are essential water resources in their areas. The three basins have different biophysical and socio-economic characteristics and are managed under different legislative, policy and institutional arrangements. Together, they thus provide good examples to explore the potential and options for basin management in ephemeral rivers and on which to base a comparative analysis for wider application.

The purpose of the project is met by five main activities:

- Sensitising managers and users of natural resources to the concepts of IWRM and basin management
- Assessing the potential for the application of integrated basin management
- Establishing appropriate forums for promoting IWRM in the three basins
- Documenting the biophysical and socio-economic status of the three basins
- Documenting best practices, lessons learnt and case studies as a comparative analysis for wider application.

This is one of many reports emanating from the ERB in Southern Africa Project. For more information on the project, visit our website at http://www.drfn.org.na/erb/index.html

The project is funded by the Norwegian Ministry of Foreign Affairs and co-ordinated by the Desert Research Foundation of Namibia (DRFN). Work in the Boteti River Basin is being led by the Harry Oppenheimer Okavango Research Centre (HOORC), in the Buffels by the Surplus People Project (SPP) and in the Fish by DRFN.
Acronyms and Abbreviations

°C  degree centigrade
CBNRM  Community-based Natural Resources Management
c  carrying capacity
d  pence
EFRC  Economic and Financial Relations Commission (Union of South Africa 1935)
ERB  Ephemeral River Basins Project
fn  footnote
FNDC  First National Development Corporation
ft  foot or feet
gal  gallon(s) = 4.55 ℓ
ins.  inches
ha  hectare(s)
kg  kilogram(s)
km  kilometre(s)
km²  square kilometre(s)
ℓ  litre
LATP Commission  Long-term Agricultural Policy Commission
LSU  large stock unit
m³  cubic metre(s)
MAWRD  Ministry of Agriculture, Water and Rural Development (former), now Ministry of Agriculture, Water and Forestry (MAWF)
MET  Ministry of Environment and Tourism
Mm³  million cubic metre(s)
NACSO  Namibia Association of CBNRM Support Organisations
n.d.  no date given
s  shilling(s)
SSU  small stock unit
SWA  South West Africa (former), now Namibia
t  metric tonne(s)
UG  Union Government
£  pound(s)

Note on the conversion of £

For the period up to 1961, the official currency consisted of pounds, shillings and pence. It was not possible to convert this currency into N$. However, the following should convey a sense of the value of the currency:

- In 1922, one sheep or goat was valued at 8s and, in 1923, one bag of maize was valued at £1 10s (Werner 1998: 94, 95).
- In 1936, a large stock unit exported to South Africa was valued at £4.
- In 1946, the price for one large stock unit marketed domestically and exported was £8.
- In 1947, the price of freehold land in Maltahöhe was 1s 6d/ha. A 43,000 ha farm cost £3,206 (LTAP Commission 1949: 23 and Table 3).
Contents

**Acronyms and Abbreviations** ................................................................. iv

1. Introduction ......................................................................................... 1

2. Changes in Land Ownership Patterns .................................................. 2
   2.1 Pre-colonial Period ....................................................................... 2
   2.2 German Colonial Period .............................................................. 4
   2.3 South African Colonial Period ..................................................... 6
   2.4 Water Boring .............................................................................. 12
   2.5 Water in Reserves ...................................................................... 16
   2.6 Fencing ....................................................................................... 22

3. Land Use ............................................................................................ 26
   3.1 Livestock Farming ....................................................................... 26
   3.2 Irrigation Farming ....................................................................... 29
   3.3 Tourism ....................................................................................... 31
   3.4 Urban Development .................................................................... 32
   3.5 Mining ......................................................................................... 33

4. Droughts ............................................................................................ 35

5. Conclusion .......................................................................................... 42

**Bibliography** ...................................................................................... 43
Ephemeral River Basins in Southern Africa

1. Introduction

The Orange-Fish River Basin is one of 11 river basins identified in Namibia. This report traces the history of land and water use in the Orange-Fish River Basin. It seeks to provide information on how access to and rights over land and water have changed from the earliest recorded history through the colonial to the post-colonial periods. The role of the State in opening up and supplying water to rural communities and the transformation of customary tenure systems into a dualistic tenure regime of fenced private property alongside restricted customary tenure in communal areas will be central to this review.

Changes in land and water use in the Orange-Fish River Basin were inextricably linked to changes in the wider economic and socio-political context of southern Namibia. The Khoi (Nama) groups migrated to Namibia between 1,000 and 2,000 years ago and lived with their herds of cattle and sheep in the area between the Orange River and the upper reaches of the Fish River. Their staple food was sour milk, veldkos and game (Lau 1987: 3, 8). The increasing integration of Nama-speaking communities into wider trade networks initiated a process that gradually replaced customary forms of economic production and consumption with market relationships. The advent of colonial rule accelerated this process by dispossessing local communities of their pastures and water sources. On the one hand, this meant that much of former Namaland was alienated from its original ‘owners’ to be surveyed, fenced and allocated to White settlers; Nama communities were forced to live in Native Reserves which were a fraction of their former land. On the other hand, colonialism also meant that the State became actively involved in opening up new water sources, primarily in the form of boreholes. This allowed for a much more extensive utilisation of grazing land.

The research presented here is based solely on secondary sources. As a result, this report will, of necessity, brush over some significant developments in very broad strokes and leave many issues aside. It should be pointed out at the outset that secondary literature is very uneven in terms of quantity and quality. Annual Reports of the Administrator to the League of Nations provide useful information on land and water developments in the country up to the late 1930s. After 1946 these were no longer published. In addition, a fair number of published reports of Commissions of Inquiry into settler farming and other economic issues exist up to 1950. For the second half of the century the secondary material becomes less accessible and is restricted to a few PhD and MA theses and books. With more time, more secondary material could possibly be dug up in the National Archives and National Library.

Most available secondary literature does not deal specifically with the Orange-Fish River Basin. However, national policies with regard to settlement, and water and agricultural development applied to the southern districts as well. Sources on the pre-colonial period referred to the larger area, of which the Orange-Fish River Basin forms a part, as Great Namaqualand and/or Namaland. This area was bounded in the south by the Orange River and in the north broadly by the course of the Swakop River (Lau 1987: 4).

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1 Southern districts refer to the districts of Bethanie, Gibeon, Keetmanshoop, Maltahöhe and Warmbad. Districts were administrative entities defined by the Union Government.
2. Changes in Land Ownership Patterns

2.1 Pre-colonial Period

During the early 19th Century, Nama communities inhabited the entire area from the Orange River to the upper reaches of the Fish River. Estimates of the size of the Nama population at the time vary, but converge around a figure of 10,000. Lau (1987: 8) regarded these figures as too low in view of the sizes of individual settlements. Travellers observed cattle posts or villages with 100, 130 and even 150 houses.

According to Budack (1972: 32), households settled at water points in close proximity to the centre of their traditional authority. A little further away, cattle posts were kept at water points. More remote areas and areas with less water were used as hunting grounds. The most important concepts in pre-colonial Nama society were !aub (hunting grounds), //gami (water) and lû-ais (grazing). The importance of water points to pre-colonial Nama society is underlined by the fact that the names of these points are part and parcel of long-term collective memory. Based on interviews with tribal elders, Budack listed 80 watering points for the Red Nation, 55 for the Bondelswarts, 28 for the Veldskoendraers, 58 for the Kharo-loan (Keetmanshoop), 77 for the !Aman at Bethanie and 68 for the Witbooi (Kössler 2005: 262, 263 fn 28).²

2 These names refer to sub-groups of the Nama speaking community in southern Namibia which all have their own political structures. According to Lau (1987: 5, 6), seven or eight sub-groups had been established by the middle of the 18th Century. Oral tradition traces their origins back to a myth which states that five brothers each founded their own tribe. The origin of the names of these sub-groups is not entirely clear.
Lau (1987: 7) argued that despite the fact that certain Nama lineages appeared to have rights to specific water points and pastures, notions of territorially were characterised by inclusion rather than exclusion of other sub-tribes. This appears plausible in view of the need for spatial mobility in an environment characterised by uncertain and patchy precipitation and availability of pastures (Kössler 2005: 22).

Earliest written records suggest that around the turn of the 19th Century, ‘the Nama were extremely wealthy and rich in cattle’ and had an abundance of milk (Lau 1987: 9).

The traveller Barnabas Shaw noted in 1920 that,

‘Some of them may properly be called rich, as they possess immense numbers of horned cattle, besides goats and sheep. We were frequently surprised at the return of their cows and oxen from the fields: clouds of dust, seen flowing in the air on every side of the village.’ (quoted in Lau 1987)

Although some areas of Namaland were mountainous and barren, other parts ‘produce plenty of grass for innumerable multitudes of cattle’. Bethanie3 had eight fountains as well as the Hudub River in close proximity ‘which will supply us abundantly with timber for building and also prove a great blessing on account of its grass and water’ (Lau 1987: 10).

Agriculture was limited to the small-scale production of tobacco and dagga (Lau 1987: 11). Watering of the cattle during the hot season of the year was done by digging large and deep holes in or on the banks of perennial rivers. These reached depths of up to six metres and were as wide as four metres (Lau 1987: 14).

The pre-colonial period in southern Namibia saw the gradual transformation of socio-economic relations of local Nama communities. Two major factors can be identified in this regard: the arrival of Oorlam groups from the Cape and the arrival of Christian missionaries.

The first half of the 19th Century witnessed large numbers of Oorlam groups migrating from the Cape Colony into areas north of the Orange River. These people were ‘Hottentots who...are born and bred with the farmers, most of whom understand and speak the low Dutch language’ (Lau 1987: 20). Leaders of the Oorlams had broken away from the social relations which had characterised Khoi groups and gathered around them runaway slaves, dispossessed Khoi retainers and similar people. They had access to firearms and often formed autonomous commando groups (Lau 1987).

Apart from a few skirmishes between the Oorlam and Nama groups, the early stages of this migration were characterised by trade. It became clear very soon, however, that the Nama groups were militarily inferior to the Oorlams and, due to their large cattle herds, less mobile than the Oorlam commandos. Relatively peaceful trade was gradually replaced by Oorlam commandos forcefully assuming rights to Nama water holes and pastures, as well as raiding cattle. While this was going on, the most powerful Oorlam and Nama leaders forged an alliance (Lau 1987: 23, 24).

The rise of trade with the Cape transformed Nama society and economy in fundamental ways. Lau (1987: 52-55) notes that important domestic industries which contributed to the social reproduction of the clan-based traditional system gradually became subordinated to the demands of trade.

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3 Bethanie is variously referred to as Bethany or Bethanien in the literature. The spelling of place names as used in the Atlas of Namibia (Mendelsohn et al. 2002) will be used in this report.
Trade gradually reduced cattle numbers among the Nama population from the 1840s onwards. To continue trading, access to guns, horses and wagons were employed to organise regular cattle raids. Cattle rearing thus declined in importance. As a result, the digging of wells along riverbeds became less frequent and dependence on surface water increased. References to overgrazed pastures around mission stations and surface water points increased in frequency during the mid-1800s. This transformation not only appears to have resulted in the absolute number of cattle owned by Nama people decreasing, but also a decrease in herds and cattle posts.

Trade with the Cape also impacted negatively on game in the South. Traditionally, Nama people hunted to complement their diets. As trade grew, game became a tradeable commodity. But in the mid-1800s already, local people hunted more game for trade with the Cape than for own consumption and local trading. The decrease in local game numbers is suggested by the fact that by the late 1850s, people from Bethanie were hunting as far away as the Kalahari (Lau 1987: 56, 57).

The 19th Century witnessed major transformations in Nama society. Oorlam migrations from the Cape to southern Namibia, the rise of Christianity and increasing trade with the Cape gradually transformed a lineage-based society towards polities that ‘were characterised by distinct hierarchies based on wealth, military prowess, religious status and sex’. Land became more territorially defined, but tenure systems remained communal.

### 2.2 German Colonial Period

The advent of German colonialism in 1884 ushered in a period of continuous land dispossession and White settlement. However, actual land settlement during the German colonial period was slow. Germany decided that it wanted to colonise South West Africa in a similar way to the British model. Land and mining rights over land were acquired by individuals and concession companies. The colonial government itself became the ‘owner’ of land, particularly after the war of anti-colonial resistance of 1904. Its own company, the Deutsche Kolonialgesellschaft für Südwestafrika, initially concentrated on mining exploration, with little attention having been paid to land settlement. Apart from a group of 35 boers from the Cape Colony who settled in the south-east of the country, little settlement took place during the 1880s. It was only after 1892 that the Kolonialgesellschaft encouraged settlement more actively (Barnard 1964: 199). In 1892, the German Government granted land and mining concessions to more private companies and by 1903, approximately one-third of the colony was under the control of nine large land and mining companies (Barnard 1964; KGR Vol.1: 2). The pace of settlement was slowed down by a requirement that prospective settlers had to have at least 20,000 Marks to start farming. This served to discourage poor farmers.

Despite this, the pace of settlement increased gradually. While only 406,875 ha had been allocated to settlers between 1893 and 1899, the corresponding figure for the period 1900 to 1902 was 921,555 ha. In 1903 alone, 1,779,063 ha of land was sold to settlers. However, despite this large increase in 1903, only 4.4% of the German colony consisted of farmland at the time. The most important settlement took place in the southern areas of Hasuur (present-day Aroab), Keetmanshoop, along the Fish River around Gibeon, and in Karibib in the central parts of the country. With a few exceptions, the northern and eastern parts of the country remained largely unsettled by 1903. In 1903, 61% of the entire male settler population was settled in the southern districts of Gibeon, Maltahöhe, Bethanie, Keetmanshoop, Warmbad and Hasuur (Barnard 1964: 200, 201).
The conclusion of the war of anti-colonial resistance in 1904 led to unprecedented land dispossession of indigenous communities, which in turn ushered in a period of accelerated land settlement. In terms of an Ordinance of 1907, all tribal lands of the Witbou, Franzman, Stuurman and Veldskoendraer Nama were confiscated. At the end of the German colonial rule in 1915, only two Nama communities retained their land as reserves, namely Berseba (ca. 575,000 ha) and the Bondels Reserve near Warmbad (174,505 ha) (Olivier 1961: 95-97).

Boring teams were established in 1906 to speed up the development of water supplies, and by 1910, settlement covered 13% of the area of the colony. Despite this, settlement of the southern districts was slow, and during the period 1903 to 1913, only 21 people settled, bringing the total number of settlers in the southern districts to 514. This represented one-third of all settlers in the colony (Barnard 1964: 202).

Although large parts of the South were considered to be government land, they remained unsettled. In 1913, Maltahöhe District, for example, was calculated at 2,480,000 ha in size, of which, 1,937,000 was classified as government land suitable for farm use. Yet only 60 farms, covering an area of 917,000 ha, had been sold (Silvester 1993: 233). This situation changed rapidly during the South African colonial period which began with the defeat of the German colonial forces in 1915.

![Figure 2: Land settlement](source: Barnard 1964: Figure 41)
2.3 South African Colonial Period

During military occupation of South West Africa by the Union of South Africa forces, (1915 to 1919), no legislation existed for the settlement of White farmers. However, stock farmers from the Union were permitted to cross the border into South West Africa to farm. They were issued with grazing licences of surveyed but unoccupied farms in the southern portions of the country. Grazing fees were charged at 6d/LSU and 2s 6d for 100 small stock (sic) (KGR Vol.1: 6). Grazing licences and short-term leases were also issued to Black livestock owners in the southern districts until 1919 (Werner 1998: 76). The short-term nature of grazing rights and the fact that hardly any land was fenced meant that settlers from the Union, in particular, did not settle at one place permanently (Silvester 1993: 225).

The period from 1915 until the mandate was granted to the Union of South Africa in 1919 also saw the establishment of temporary or grazing ‘reserves’ for indigenous communities in the South. These reserves took on a temporary nature because the Union of South Africa did not yet have the legal powers to set aside land as ‘Native Reserves’ on a permanent basis. One of the reasons why the new colonial Administration tolerated the establishment of these reserves was that they were perceived to act as ‘farm labour producing centres’. Limited subsistence farming was allowed to lay the foundation for Native Reserves later on. Indigenous people living on these reserves would be forced to seek wage labour, as ‘the natives would be under close control and the payment of such taxes as may be levied could be effectively enforced. These taxes would have to be earned’ (Werner 1998: 77-78).

By 1920, the areas listed in Table 1 were officially regarded as temporary or grazing reserves in the South.

Table 1: Temporary reserves in the southern districts of Namibia, 1920

<table>
<thead>
<tr>
<th>District</th>
<th>Reserve</th>
<th>Extent (approximate ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmbad</td>
<td>Bondelswarts</td>
<td>175,000</td>
</tr>
<tr>
<td>Bethanie</td>
<td>Bethanie (incl. Soromas)</td>
<td>10,000</td>
</tr>
<tr>
<td>Keetmanshoop</td>
<td>Vaalgras (or Witbooisende)</td>
<td>46,000</td>
</tr>
<tr>
<td></td>
<td>Berseba</td>
<td>736,000</td>
</tr>
<tr>
<td>Gibeon</td>
<td>Witbooisvlei</td>
<td>20,000</td>
</tr>
<tr>
<td>Maltahöhe</td>
<td>Neuhof</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Source: Werner 1998: 78

The Treaty of Peace and South West Africa Mandate Act No. 49 of 1919 provided the Union of South Africa with the legal basis to accelerate land settlement in South West Africa. On the one hand, the land settlement laws of the Union of South Africa could now be applied to South West Africa. These consisted of the Land Settlement Act of 1912 and the Crown Land Disposal Ordinance of 1903 of the Transvaal, which were applied in terms of the Land Settlement Proclamation No. 14 of 1920 and Proclamations 47 and 53 of 1920. These were superseded by the Land Settlement Consolidation and Amendment Proclamation No. 301 of 1927 of the Union (SWA 1946b:14). On the other hand, the Treaty of Peace and South West Africa Mandate Act of 1919 also made it possible to address the ‘native question’ on a more permanent basis. In order to do this, the Administration appointed the Native Reserves Commission (SWA 1921b) in December 1920. The recommendations of this Commission firmly set South West Africa on the road to a fully-fledged settler colony. The fundamental aim of the Commission was ‘the removal of natives’ settlements from essentially European areas and to prevent the renting of land to natives,
commonly known as ‘kaffir farming’ (Werner 1998: 102). In 1923, Black owners of livestock in the southern districts of Bethanie, Gibeon and Maltahöhe owned much more livestock outside the reserves than on the reserves. Much of this livestock grazed on farms allotted to White settlers, who either charged grazing fees or demanded labour in return for Blacks grazing their stock on their farms (Werner 1998: 97, 98, 101,102).

The Commission recommended that temporary reserves should be closed and new land provided to accommodate ‘natives removed from areas recommended for closure’. In making these recommendations, the Commission ‘studiously avoided the creation of Black islands in the various districts, and for this reason has selected large areas in outlying parts of the country’ (Werner 1998: 102). Outlying parts referred to land that was not considered important for White settlement, such as the areas later proclaimed as reserves for the Herero in the Omaheke Region.

The principle of selecting land in outlying parts of the country was not applied as rigorously in the southern districts as in the central parts of South West Africa. In part, this may have been due to the fact that the Commission ‘fully respected any title to be held by natives from the German Government’, which included the reserves of Berseba, Hoachanas and the Bondelswarts (SWA 1921b: 21). With the exception of Neuhoof in the Maltahöhe District, no land was added to these reserves (Kössler 2005: 45). The Commission recommended creating the Tses Reserve by buying a portion of the land from the Berseba Reserve (SWA 1921b: 21). According to Kössler (2005: 45, 46), the Tses Reserve was initially to be called the Fish River Reserve, until it was realised that the Fish River did not run through the Reserve. The Commission proposed that Tses be used ‘as a kind of catch-all for the traditional communities in the South, whom they apparently could not accommodate elsewhere’.

The recommendations of the Native Reserves Commission were implemented in 1923 and 1924 with the proclamation of the following reserves in the South:

<table>
<thead>
<tr>
<th>Name of reserve</th>
<th>Year of proclamation</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berseba</td>
<td>(German Treaty)</td>
<td>575,000</td>
</tr>
<tr>
<td>Bondels</td>
<td>(German Treaty)</td>
<td>174,505</td>
</tr>
<tr>
<td>Soromas</td>
<td></td>
<td>8,212</td>
</tr>
<tr>
<td>Neuhoof</td>
<td>1923</td>
<td>20,500</td>
</tr>
<tr>
<td>Tses</td>
<td>1923</td>
<td>229,925</td>
</tr>
<tr>
<td>Gibeon</td>
<td>1924</td>
<td>38,782</td>
</tr>
<tr>
<td>Warmbad</td>
<td>1951</td>
<td>14,523</td>
</tr>
</tbody>
</table>

With regard to White settlement, a Land Board was created in terms of Proclamation 14 of 1920. One of its first activities was an extensive survey of a large number of farms in the Warmbad and Keetmanshoop districts (UG26 1921: 15). On a trip to the South (Rehoboth and Gibeon) the Land Board described the area as follows:

‘the grazing in these two districts is very good indeed for all classes of stock but the bush is not so high and dense and the herbage is not so heavy or permanent as in those other districts reported on earlier [around Windhoek, Okahandja, Omaruru and Karibib,]. The rainfall is much less: -hence a larger area is needed to meet the requirements of the average farmer and we feel that from the knowledge placed at our disposal and
from past custom and experience, that up to 10,000 ha will be needed in those districts excepting probably in the artesian water area.’ (RLA Chairman Land Board to Secretary of Lands, Pretoria, 10.2.1920: 3)

On the whole, however, the trip to the South

‘confirmed…our earlier view that this country is not suited for the small or poor farmer, that is for men who have no means of their own and are entirely dependent upon the government for necessary capital to enable them to make a fair living.’ (RLA Chairman Land Board to Secretary of Lands, Pretoria, 10.2.1920 : 2)

In the wake of this visit, 80 farms were advertised in these two districts at the end of 1920 and allotted a few weeks later. ‘All the farms advertised were disposed off and thus a new era of development was ushered in.’ (KGR Vol.1: 9)

The newly-constituted Land Board decided that farms in the north of the country should have an area of approximately 6,000 ha and in the South from 12,000 to 18,000 ha (KGR Vol.1: 8).

To attract White settlers to South West Africa, the Lands Branch of the Administration issued a small brochure entitled *Land for Settlers* in 1921, providing a brief synopsis of land settlement policies (SWA 1921). It regarded the southern areas comprising Warmbad, Keetmanshoop, Aroab, Bethanie, Gibeon and Maltahöhe, mainly suitable for sheep farming and described these areas as follows:

‘The veld consists mostly of edible bush, intermingled with fine sweet grass after the rains. The rainfall ranges from 4 ins. to 6 ins. annually, falling from February to April, in the form of thunder showers. The farms are necessarily large, ranging from 10,000 to 20,000 ha, according to veld and locality. Cattle also answer well in this area, but owing to the scattered nature of the veld the keeping of large herds of cattle is not considered advisable. Water can be obtained in most parts of the southern belt by sinking wells, except on Zwartrand in Maltahöhe District, where deep boring will be necessary.’ (SWA 1921: 3)

Most land applicants from the Union of South Africa preferred the South to the more attractive northern districts (UG22 1927: 9). The popularity of the southern districts may be explained by the fact that the majority of prospective settlers were sheep farmers from the north-western Cape (UG22 1927: 9; Barnard 1964: 204). Moreover, the high interest in farms in the South was spurred on by the high number of temporary grazing licence-holders in the South. ‘It was reported that some farms were shared by as many as 16 White families’ (Silvester 1993: 242). In addition, the Union Government reduced the amount of capital required by settlers to acquire a farm by half, from £1,000 that was demanded by the German Government to £500. This suggests that land settlement by the Union of South Africa was aimed at a different target group. ‘The priority of the new settlement was not to encourage private investment, but rather to facilitate land ownership for a particular group of poor White stock owners from the Cape.’ (Silvester 1993: 243)

In 1920, Keetmanshoop was the second most popular district for settlement after Gobabis (UG16 1921:15). For every application for land in the North, 50 were received in the South. By 1926, about 50% of the rural White population lived in the southern districts, compared to 22% for the northern and 16% for the central districts (Barnard 1964: 204, 210). Practically all surveyed farms had been allocated in Keetmanshoop District by 1926 (UG22 1927: 8). The total number of occupied farms in the Keetmanshoop District was given as 180 in 1927. In addition to settlers on those farms,
‘Many farmers from the Union trekked into this district during the early part of the year under review to find grazing for large flocks of merino sheep which were in a starving condition. Now that rains have fallen in Prieska, Kenhardt, etc., these farmers are trekking back with their stock.’ (UG31 1928:12)

As Figure 2 (page 5) shows, much of the Maltahöhe, Keetmanshoop, Aroab and Warmbad districts were settled in a contiguous block by 1925.

From 1920 to 1925, the pace of settlement in the whole of Namibia was faster than during any other period. Altogether 785 farms were allotted with an area of 5.2 million ha (Barnard 1964: 204). Settlement slowed down after 1926, and during the drought and depression of the late 1920s and early 1930s, many settlers left their farms as they could no longer survive. From 1931 to 1935, no farms were allotted and for the duration of World War II settlement virtually came to a halt, as many young Afrikaners were in active service and many Germans interned (Barnard 1964: 205). After the war, demand for land increased. However, as almost all Crown Land4 had been allotted, the Administration bought company land for sub-division and allotment. In the Keetmanshoop District the company farm Garinais, which was 443,039 ha in extent, was acquired and sub-divided into 13 farms (Barnard 1964: 206).

Table 3 provides a summary of land settlement in the southern districts from 1919 to 1930.

By the early 1960s, settler farms covered 88% of the southern districts. Only 6.3% of the land in these districts remained as Native Reserves. These consisted of six small reserves (Barnard 1964: 249, 250). Only a small portion of land around the confluence of the Fish and Orange rivers was still unoccupied, but due to its ruggedness not considered for settlement (Barnard 1964: 207).

Table 3: Land settlement in the southern districts of Namibia between 1919 and 1930

<table>
<thead>
<tr>
<th>District</th>
<th>Year 1919</th>
<th>1926</th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bethanie</td>
<td>No. of holdings</td>
<td>-1</td>
<td>10</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Area (ha)</td>
<td>-</td>
<td>119,015</td>
<td>45,000</td>
<td>43,900</td>
<td>6,968</td>
<td>24,047</td>
</tr>
<tr>
<td></td>
<td>No. of settlers</td>
<td>-1</td>
<td>14</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Gibeon</td>
<td>No. of holdings</td>
<td>-1</td>
<td>20</td>
<td>11</td>
<td>3</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Area (ha)</td>
<td>-</td>
<td>207,753</td>
<td>102,384</td>
<td>28,606</td>
<td>58,761</td>
<td>15,653</td>
</tr>
<tr>
<td></td>
<td>No. of settlers</td>
<td>-1</td>
<td>24</td>
<td>11</td>
<td>5</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Keetmanshoop</td>
<td>No. of holdings</td>
<td>-</td>
<td>37</td>
<td>18</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Area (ha)</td>
<td>-</td>
<td>229,491</td>
<td>6,245</td>
<td>12,200</td>
<td>42,966</td>
<td>19,191</td>
</tr>
<tr>
<td></td>
<td>No. of settlers</td>
<td>-</td>
<td>23</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Maltahöhe</td>
<td>No. of holdings</td>
<td>-</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Area (ha)</td>
<td>-</td>
<td>34,442</td>
<td>-</td>
<td>-</td>
<td>11,333</td>
<td>39,934</td>
</tr>
<tr>
<td></td>
<td>No. of settlers</td>
<td>-</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Warmbad</td>
<td>No. of holdings</td>
<td>-</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Area (ha)</td>
<td>-</td>
<td>43,689</td>
<td>25,347</td>
<td>-</td>
<td>15,040</td>
<td>18,400</td>
</tr>
<tr>
<td></td>
<td>No. of settlers</td>
<td>-</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Sources: UG16 1921:15; UG22 1927:68; UG31 1928: 81; UG22 1929:46; UG23 1930:36; UG21 1931:37

4 Crown Land refers to land belonging to the Crown under British law and corresponds to present day State lands, i.e. land belonging to the State rather than private owners.
The structure of land ownership in the south was changed only one more time in the 1960s, with the appointment of the Commission of Inquiry into South West Africa Affairs, commonly known as the Odendaal Commission, in 1963. The Commission achieved fame (or notoriety) on account of its far-reaching recommendations regarding the entrenchment of apartheid policies in Namibia. In its findings, the Commission pointed out that, based on experience, ‘virtually all’ existing Reserves, ‘have been unable to achieve more than subsistence economy’. It argued that the amalgamation and expansion of some reserves together with ‘further training and active co-operation of their inhabitants’, would ensure that all homelands would ‘provide a proper livelihood ... for their respective population groups’, (Odendaal Commission 1964: 81 quoted in Werner 1991: 51). It recommended that the reserves of Berseba, Tses, Krantzplatz (Gibeon) and Soromas be consolidated by adding Itzawisis, 165 farms of Whites and portions of farms adjoining the above areas and Gibeon town and townlands. The inhabitants of Warmbad, the Bondelswarts Reserve and Neuhof should ‘be persuaded in their own interests to move to Namaland and that they be reasonably compensated for the three above-mentioned areas’ (Odendaal Commission 1964: 101, 105). As Table 4 shows, the communal land area of the Nama doubled in size as a result of the Odendaal Commission’s recommendations.

Table 4: Communal land in southern Namibia after the Odendaal Commission

<table>
<thead>
<tr>
<th>Reserve</th>
<th>Original size (ha)</th>
<th>Freehold farms added (ha)</th>
<th>Total (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berseba</td>
<td>586,779</td>
<td>141,327</td>
<td>728,106</td>
</tr>
<tr>
<td>Gibeon</td>
<td>39,190</td>
<td>727,156</td>
<td>766,346</td>
</tr>
<tr>
<td>Soromas</td>
<td>25,918</td>
<td>166,829</td>
<td>192,747</td>
</tr>
<tr>
<td>Tses</td>
<td>254,589</td>
<td>203,302</td>
<td>457,891</td>
</tr>
<tr>
<td>Dreihuk/Bondelswarte</td>
<td>189,019</td>
<td></td>
<td>189,019</td>
</tr>
<tr>
<td>Communal area</td>
<td>1,095,495</td>
<td>1,238,614</td>
<td>2,334,109</td>
</tr>
</tbody>
</table>


The addition of freehold farms to the newly-constituted ‘homeland’ meant that approximately 58% of the Nama communal area consisted of surveyed freehold farms. These units were incorporated into the homeland either as entirely or partially fenced-off units. Up to ten families were settled on each farm (MAWRD 1992a: 53). Allocation of land on former settler farms was controlled by the stamraad or tribal authority of a particular ward. In general, several families were allocated one fenced camp, although in some cases individual farmers controlled more than one camp. Animals grazed freely in shared camps, and due to competition for grazing, no grazing was left for times of drought (MAWRD 1992a: 55). Figure 3 (page 11) shows (a) southern communal areas before the Odendaal Commission began its deliberations and (b) the new homeland for Nama people which resulted from its recommendations.
Figure 3: Communal land before (a) and after (b) the Odendaal Commission (1964)
Source: Republic of South Africa (1964): Figures 16 and 27
2.4 Water Boring

The most serious challenge faced by new settlers in South West Africa generally was the question of opening up permanent water. The German colonial Administration allotted farms without an assured water supply to settlers. Permission could be obtained to reside on dry farms with the promise that, if water was opened up in sufficient quantities by them, the settlers could have the option of purchasing their farms (UG16 1921: 15).

Water boring was done by the German colonial Administration at fixed rates and had to be paid for in cash by settlers. For unsuccessful boreholes, only half the fixed costs were charged and in such cases, settlers could apply for repayment in instalments over a number of years against registration of a mortgage over their farms. It was only in 1912 that boring operations were carried out by private drillers. Small loans for boring were granted at the rate of approximately 10s/ft up to a maximum cost of £250/borehole at an interest rate of 4%, repayable over 10 years (UG16 1935: 150).

The main challenge facing land settlement after 1915 was opening up reliable water sources. The Union Administration in South West Africa faced a big demand for water from settlers on farms and with grazing licences. By 1919, the Irrigation Department had 2,000 applications pending for drilling on Crown Land with expectations that this would rise. During the initial years, the South West African Administration was ill-equipped to meet the demand for boring. At the end of 1919, the Irrigation Branch had secured only nine drills ‘in addition to a few relics from the German time’ and had placed an order for another 41 (UG 26 1921: 15, 20).

To assist the process of finding water and thereby speeding up land settlement, the Administration put large amounts of capital into drilling operations. This ‘saved a large number of settlers who would otherwise have been compelled to leave the land’ (KGR Vol.1: 10). Already in 1921, the development of subterranean water supplies had greatly accelerated. While only 10 drills were in the field by the end of 1920, the number had increased to 32 by 31 December 1921. But the pace of water development was still slow and uneven. During January 1921, southern districts such as Gibeon, Keetmanshoop and Warmbad did not have any drills. By December, the former two districts had one drill each and Warmbad two (UG32 1922: 19).

The policy of allotting dry farms ceased in 1922, as the entire drilling fleet in South West Africa had increased to 34 percussion or jumper machines and four rotary shot drills. As a result, boring operations increased dramatically, particularly on a number of waterless farms occupied by lessees. Very successful results were obtained inter alia in southern Aroab District, Maltahöhe District and the artesian area of Gibeon District. Areas where underground water was difficult to obtain were identified such as the western portion of Gibeon District and Warmbad District (UG21 1923: 41).

In 1923, the number of drills totalled 47 (six rotary and 41 percussion drills). The rapid increase in the drilling fleet enabled the Administrator to claim in his Annual Report that most occupied farms were now with water and more attention could be paid to providing unallotted farms with water, thus making them available for allotment. During the year, an estimated 450,000 ha of formerly waterless Crown Land had been made habitable and available for settlement (UG21 1924: 41).

Drilling during the first years of the Mandate was carried out and paid for by the South West Africa Administration. Although the brochure on land settlement (SWA 1921a: 7) stated that the cost of boring would be added to the price of the land if the Land Board so recommends, the Administration carried most of the cost. Budget figures for water boring are only available for
the period 1924 to 1929. These show that financial years 1924-25 and 1925-26 were peak years in terms of financial outlay for water boring (Table 5).

Evidence submitted to the Economic and Financial Relations Commission (EFRC) showed that from 1920 to 1932, the Administration had drilled a total of 692,760 ft in the country at a total expenditure of £648,478. The percentage of unsuccessful boreholes ranged between 26% and 42% for the whole country. In order to do the drilling, between 60 and 70 drills were bought at a cost of approximately $120,000 (UG16 1935: 207). No disaggregated figures could be found to single out boring operations in the southern districts.

<table>
<thead>
<tr>
<th>Year</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>1924</td>
<td>45,277</td>
</tr>
<tr>
<td>1924/25</td>
<td>65,351</td>
</tr>
<tr>
<td>1925/26</td>
<td>82,765</td>
</tr>
<tr>
<td>1926/27</td>
<td>22,353</td>
</tr>
<tr>
<td>1927/28</td>
<td>28,159</td>
</tr>
<tr>
<td>1928/29</td>
<td>-</td>
</tr>
</tbody>
</table>

Despite a peak in budgetary expenditure on water boring in the mid-1920s, the number of boreholes completed each year peaked in 1929. This may be explained in part by the fact that since 1925 the Land and Agriculture Bank provided advances to farmers to enable them to open up additional water supplies on their farms in order that for grazing to become available. Initially the maximum sum was £250, but was increased to £500, ‘in view of the vital necessity of opening up water and so expediting development of farms’ (UG22 1927: 62). Table 6 provides a summary of grants provided by the Land and Agricultural Bank between the years 1926 to 1932. It shows that such grants peaked in 1929 and 1930 and that the average grant never exceeded £285 per grant.

<table>
<thead>
<tr>
<th>Year</th>
<th>No.</th>
<th>Amount granted (£)</th>
<th>Average grant (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1926</td>
<td>15</td>
<td>2,860</td>
<td>191</td>
</tr>
<tr>
<td>1927</td>
<td>36</td>
<td>6905</td>
<td>192</td>
</tr>
<tr>
<td>1928</td>
<td>57</td>
<td>14,130</td>
<td>248</td>
</tr>
<tr>
<td>1929</td>
<td>102</td>
<td>24,870</td>
<td>244</td>
</tr>
<tr>
<td>1930</td>
<td>88</td>
<td>21,385</td>
<td>243</td>
</tr>
<tr>
<td>1931</td>
<td>34</td>
<td>9,690</td>
<td>285</td>
</tr>
<tr>
<td>1932</td>
<td>3</td>
<td>540</td>
<td>180</td>
</tr>
</tbody>
</table>

The total number of boreholes completed between 1920 and 1933 is shown in Table 7 (Page 14). The overall average depth of boreholes during this period was 260 ft or approximately 80 m with an overall average yield of 16,400 gal or 75 m³/day. No disaggregated figures are available from secondary sources to show how many of these boreholes were drilled in the southern districts of the country. The literature does suggest however, that Maltahöhe District for example, was settled relatively late as it was necessary to drill up to 300 m to obtain water. For a long time this had not been technically possible (Bähr 1968: 72).
Reasons for the fluctuations in yield have not been given with a few exceptions. With regard to the drop in yields of ordinary boreholes in 1924 relative to 1923, the Administrator stated in his Annual Report that this was due to, ‘the poor results obtained in the Native Reserves, and also due to natural causes which vary from year to year and on which no control can be exercised’. However,

‘The yield from artesian boreholes has dropped considerably owing to a large reduction in the number of completed boreholes in the Auob valley drilled during the year, a reduction of over four million gallons per diem being registered.’ (UG33 1925: 55)

In order to protect groundwater resources, the colonial Administration required that farmers obtained permits before drilling for water in the artesian areas of the eastern parts of Gibeon and the southern parts of Maltahöhe districts (Bähr 1968: 72). As early as 1921, the Administration had introduced the Artesian Water Control Proclamation. This required a licence from the Administrator, on the recommendation of the Land Board, for boreholes to be sunk in an artesian water area, which was defined as follows:

West: by Windhoek-Keetmanshoop railway line
North: by 24th degree of latitude S
East: by Union border
South: by 27th degree latitude S (UG32 1922:15,16).

Table 7: Boring completed between 1920 and 1933

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of boreholes</th>
<th>Average yield per day (gal)</th>
<th>Average depth (ft)</th>
<th>No. of machines in commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>15</td>
<td>14,467</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>1921</td>
<td>68</td>
<td>29,132</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1922</td>
<td>134</td>
<td>15,370</td>
<td>255</td>
<td>32</td>
</tr>
<tr>
<td>1923</td>
<td>167</td>
<td>15,000</td>
<td>257</td>
<td>42</td>
</tr>
<tr>
<td>1924</td>
<td>246</td>
<td>12,200</td>
<td>262</td>
<td>45</td>
</tr>
<tr>
<td>1925</td>
<td>212</td>
<td>13,300</td>
<td>269</td>
<td>45</td>
</tr>
<tr>
<td>1926</td>
<td>262</td>
<td>17,000</td>
<td>286</td>
<td>56</td>
</tr>
<tr>
<td>1927</td>
<td>244</td>
<td>13,400</td>
<td>254</td>
<td>65</td>
</tr>
<tr>
<td>1928</td>
<td>290</td>
<td>17,300</td>
<td>254</td>
<td>72</td>
</tr>
<tr>
<td>1929</td>
<td>350</td>
<td>20,200</td>
<td>274</td>
<td>76</td>
</tr>
<tr>
<td>1930</td>
<td>318</td>
<td>20,125</td>
<td>229</td>
<td>73</td>
</tr>
<tr>
<td>1931</td>
<td>221</td>
<td>13,400</td>
<td>260</td>
<td>46</td>
</tr>
<tr>
<td>1932</td>
<td>27</td>
<td>10,000</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>1933</td>
<td>6</td>
<td>18,700</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Sources: UG32 1922:20; UG21 1924: 42; UG26 1926:44; UG22 1927: 49; UG31 1928: 65; UG23 1930:107; UG21 1931:127; UG17 1932: 100; Union of South Africa 1933: 121; UG27 1934: 69

Concerns about water conservation were taken up formally in 1928, when the Water Investigation Commission was appointed, ‘to formulate and report upon a scheme for effecting in the most expeditious and economical manner:

1. the conservation of water in the territory by means of dams and other works;
2. the tapping of underground water supplies’ (Hamman et al. 1929: 1).
At the time of its appointment there was no water legislation in the territory ‘by which water rights can be defined, and by means of which water in public streams can be regulated and generally controlled’, with the exception of a Government Proclamation in connection with artesian areas ‘controlling and licensing the use of water’ (Hamman et al. 1929: 3).

However, the Administration decided in 1920 to change the German principle in terms of which riverbeds belonged to the government, by extending ownership in the middle of river beds ‘with a view to providing water for the farmers whose farms adjoin rivers’ (UG16 1921:15).

The Commission expressed the view that:

‘It is essential that our limited supplies of water should be properly and systematically allocated, and that those schemes that are permitted on public or common rivers should be those from which the State will deserve maximum benefit.’ (Hamman et al. 1929: 3)

The Commission therefore recommended that legislation be put in place which provided for a clear definition of water rights and simple machinery for applying the law and that control of water and determination of rights be vested in the State. In the process of determining rights it assured that only those dams that were sound from an engineering point of view would be permitted (Hamman et al. 1929: 3)

The evidence before the Commission ‘was overwhelmingly in favour of launching a vigorous policy of developing water supplies by means of dams’. Many witnesses pointed out the depleting effect of boreholes and wells on underground water supplies and advocated the building of dams as a ‘compensative measure’ (Hamman et al. 1929: 3).

In view of this, the Commission recommended that in preparing farms for settlement, dams should be built before boreholes were sunk. The costs of dams should be added to the purchase price of the land. The most effective manner to encourage farmers to conserve water by means of dams was to provide ‘liberal facilities to farmers for obtaining loans on easy terms of repayment’.

In making these recommendations, the Commission expressed its view that it was not in favour of granting subsidies as this would place too heavy a burden on the Administration. The granting of loans ‘favours the principle that the farmer must reimburse the government to the full extent of its financial commitment’. It stressed that ‘an essential condition to the granting of a loan would be that the dam in respect of which a loan was desired be approved in its entirety by the government engineers and that payments will be subject to work being constructed to their satisfaction’ (Hamman et al. 1929: 4, 5). Farmers should obtain technical advice on dam building free of charge (Hamman et al. 1929: 5).

The Administration encouraged the construction of farm dams and the sub-division of farms into camps so that portions of farms could be rested periodically and at the same time obviate the necessity of driving cattle long distances for water (UG21 1924: 29). Ideally, small stock — and large stock — should not have to walk more than 4 km to a water point. This suggests that for optimal livestock production, water points should have been fairly close and evenly spread across farms (Bähr 1968: 71). However, this was not possible on all farms, and in the South many farmers resorted to a system of ‘dry stock posts’ (Trockenposten). This implied that sheep were kept at a dry stock post for the night and were led to water by their herders only every second day (Bähr 1968: 71).

In 1933, boring by government practically ceased. Only two machines were employed intermittently. A scheme came into operation whereby the government loaned machines and
equipment to farmers on payment of depreciation costs. Twenty-six machines were lent out in 1933 under this scheme (UG27 1934: 68).

No information could be found on the development of earth dams on freehold farms in the Orange-Fish River Basin. The only large dam built on freehold land was on the farm Voigtsgrund. This dam, with a storage capacity of 10 Mm³, was completed in 1915. Three of the major dams in the Basin were constructed after 1960 as Table 8 shows.

Table 8: Large dams in the Orange-Fish River Basin

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Year completed</th>
<th>Storage volume (Mm³)</th>
<th>Purpose of dam</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardap</td>
<td>north-west of Mariental</td>
<td>1963</td>
<td>300</td>
<td>Domestic use, irrigation, leisure</td>
<td>State</td>
</tr>
<tr>
<td>Naute</td>
<td>south-west of Keetmanshoop</td>
<td>1972</td>
<td>84</td>
<td>Domestic use, irrigation, leisure</td>
<td>State</td>
</tr>
<tr>
<td>Dreihuk</td>
<td>south-west of Karasburg</td>
<td>1978</td>
<td>15.5</td>
<td>Domestic use</td>
<td>State</td>
</tr>
<tr>
<td>Voigtsgrund</td>
<td>Gibeon</td>
<td>1915</td>
<td>10</td>
<td>Irrigation, domestic use</td>
<td>Initially private, now State</td>
</tr>
<tr>
<td>Van Rhijn</td>
<td>Keetmanshoop</td>
<td>1952</td>
<td>3</td>
<td>Domestic use</td>
<td>Keetmanshoop town</td>
</tr>
<tr>
<td>Bondels</td>
<td>south-west of Karasburg</td>
<td>-</td>
<td>1.1</td>
<td>Domestic use</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Otzen 1989: 174; MET 1998: 3-44

2.5 Water in Reserves

The development of water sources in the Nama Reserves during the period of South African rule was never a priority of the colonial Administration, notwithstanding rhetoric to the contrary. The Native Reserves Commissions of 1921 and 1928 concerned themselves exclusively with the control of natives in order to improve labour supplies to settler farmers. In 1921, for example, one of the major problems submitted to the Native Reserves Commission by Black Namibians was ‘that their reserves were too small and the water supply insufficient’. The Commission felt that this complaint was well founded (SWA 1921b: 4) but was of the opinion that the sites recommended for all new Native Reserves were ‘as far as pasturage and water are concerned uniformly suitable’ (SWA 1921b: 20). As regards the recommendation to create a Reserve at Tses, the Commission stated that this should only be done after an inspection to ascertain ‘whether the reports as to the quantity of water available there are correct’ (SWA 1921b: 21).

In 1928, the Commission recommended that water facilities should be improved in Native Reserves, as this would induce more Black people to go out to work. ‘The natives are only too ready to make use of the excuse of water drawing, and the improvement of water facilities will take this weapon out of our hands’ (SWA 1928: ii). With regard to Tses specifically, the Commission found that two-thirds of the population fit to work could go out to work but did not.
‘If the water facilities were improved, more natives would be able to go out and work. On the most important water holes the water service should be improved by means of windmills with reservoirs of galvanised iron or cement’ (SWA 1928: iv).

Of all the reserves in the South, Tses did appear to receive more attention in terms of water development than the other reserves, at least in the first years after proclamation of the reserves. In 1923, the Administrator wrote in his Annual Report that at Tses ‘boring is comparatively easy but the results obtained have not been very encouraging, only one borehole out of three yielding an adequate amount of water’ (UG21 1924: 41). One year later, seven holes were sunk at Tses. Of these, three yielded a supply of water so salty that it was quite unfit for use. The remainder, of the water which could be used, gave a return of 20,000, 11,000, 7,200 and 24,000 gal per day⁵. They were too deep to be operated by a horse-gear pump and needed to be fitted with windmills, tanks and troughs. Unsurprisingly, the Administration responded to this need by stating that ‘there are no funds with which to meet this expenditure at the moment, but it is intended to make a beginning by drawing on the Reserve Trust Fund, which amounts to £250’ (UG33 1925: 25). During the same year the residents of Warmbad requested the Administration to assist them with a windmill and six bucket pumps. ‘At the time there were no funds to meet this expenditure and it was not possible to accede to their request, so the Magistrate was instructed to point out to them the advantage of starting a Trust Fund out of which such expenditure could be met’ (UG33 1925: 25).

During the first ten years after the reserves had been proclaimed, the Administration paid for water development in the reserves. However, funding for water development in the Native Reserves was miniscule by any standards. As Table 9 (page 18) shows, a total amount of £20,491 was spent by the colonial Administration on water boring in the Native Reserves. By contrast, the total amount spent on boring for water on settler farms from 1924 to 1928 amounted to £243,905 (UG33 1925:18; UG23 1930:16). In addition, between 1926 and 1932, the Agricultural Bank extended 335 loans amounting to a total of £80,380 to settlers for water boring. Regrettably, figures were not disaggregated for different parts of the country.

From 1932 onwards, expenses for the development of water points in the reserves was met from Reserve Trust Funds, which were established in terms of Proclamation 9 of 1924 (Lord Hailey 1946: 74; UG33 1925: 25). The income of Trust Funds was to be generated from monies raised within the reserves, 90% deriving from grazing fees. Each reserve had its own fund (Lord Hailey 1946: 83-84).

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⁵ One gallon is equivalent to 4.55 litres; thus 20,000 gallons would amount to 91 m³ per day or 3.8 m³ per hour.
The reserves that were being held in terms of a German Treaty such as the Bondels Reserve and Berseba, were not required to pay grazing fees. Consequently, with the exception of a dog tax, they contributed nothing to the revenue of their Trust Funds. Referring specifically to the Bondels Reserve and taking into consideration that ‘they are very poor there is little prospect of their creating a substantial Trust Fund. The Administration, will, therefore, no doubt have to come to their assistance’ (UG33 1925).

But even where Trust Funds had the ‘benefit’ of collecting grazing fees, the amount of revenues thus generated stood in no relation to the cost of drilling for water. The Annual Report for 1927 showed the mismatch between the cost of boring and the revenues of the reserves. The example was that of Tses, where during 1927 two boreholes were drilled. One was 500 ft deep and the other 130 ft. They were dry boreholes and cost £475 and £123 10s respectively. During 1927 total collections for the Reserve Trust Fund of Tses were £832 3s 5d (UG31 1928: 40, 41).

In view of the high costs of drilling for water and the low revenues generated by grazing fees and dog tax, the Administration emphasised the importance of digging wells rather than drilling boreholes (Kössler 2005: 78). This had been happening in some reserves since the late 1920s. In Tses, for example, ‘dam building is being tried by the natives themselves’. This was expected to ease the water situation. Although drilling for water could take place in Tses, ‘it is usually too salty (sic) even for stock to use’ (UG31 1928: 42). Reserve residents were reported to have been ‘busy all year round cleaning out and deepening wells’. Despite these efforts, the water supply in Tses remained a problem, as the supply of water from wells only lasted for short periods (Union of South Africa 1933: 73). In the Krantzplatz Reserve (Gibeon), the drilling of boreholes for White settlers around the reserves was said to have led to numerous wells drying up in the late 1920s (Kössler 2005: 77). In the mid-1930s, open water pools in the Fish River constituted the main water supply for people in the Gibeon Reserve. However, a dam was reported to be under construction some 7 miles (11.2 km) from the Fish River at an estimated cost of £200 (UG26 1935: 47). It was anticipated that upon completion the dam ‘would afford excellent grazing for reserve stock on the eastern portion of the Reserve which hitherto could not be reached from the Fish River and in the vicinity of which there is good grazing’ (Union of South Africa 1936b: 45).

### Table 9: Expenditure on boring in Native Reserves

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923/24</td>
<td>4,706</td>
</tr>
<tr>
<td>1924/25</td>
<td>3,379</td>
</tr>
<tr>
<td>1925/26</td>
<td>1,797</td>
</tr>
<tr>
<td>1926/27</td>
<td>1,036</td>
</tr>
<tr>
<td>1927/28</td>
<td>1,377</td>
</tr>
<tr>
<td>1928/29</td>
<td>908</td>
</tr>
<tr>
<td>1929/30</td>
<td>1,000</td>
</tr>
<tr>
<td>1930/31</td>
<td>1,533</td>
</tr>
<tr>
<td>1931/32</td>
<td>4,755</td>
</tr>
<tr>
<td>1932/33</td>
<td>-</td>
</tr>
<tr>
<td>1933/34</td>
<td>-</td>
</tr>
<tr>
<td>1934/35</td>
<td>-</td>
</tr>
<tr>
<td>1935/36</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,491</strong></td>
</tr>
</tbody>
</table>

Sources: UG22 1929: 27; UG21 1931: 27; Union of South Africa 1936b: 1
The policy to concentrate on deepening existing wells and digging new ones rather than drilling boreholes continued well into the 1950s (Kössler 2005: 81). By that time, insufficient and poorly distributed water supplies in the reserves impacted negatively on the utilisation of grazing. In Gibeon Reserve, all livestock was concentrated on pastures between the Fish River and the Kalk plateau, as no boreholes were drilled on the Kalk. The resulting overgrazing reached such proportions that the Principal Agricultural Officer observed in correspondence to the Chief Native Commissioner that,

‘The area between the Fish River and Die Kalk should be vacated for a period of at least six years in order that some recovery of the veld can be encouraged as conditions in this sector are verging on those of a desert.’

In order to mitigate the situation he proposed the development of additional water points as a matter of great urgency (Kössler 2005).

In 1949, the Long-Term Agricultural Policy Commission (SWA 1949: 52) observed that in several Native Reserves, the limits of productivity had been reached ‘pending the augmentation of water supplies in outlying areas’. However, no specific recommendations were made with regard to the development of additional water points.

Water development in the Native Reserves did not feature very prominently in the deliberations of the Odendaal Commission Report. Although the Commission was concerned with the consolidation of Native Reserves into ‘homelands’, it paid little attention to water issues. With regard to the proposed Namaland, it noted that starting at Ganigobes, the Fish River formed a large number of open pools which could be utilised for small-scale irrigation. This should be done by using portable plants, engines and pumps on wheels and light pipes. In addition to this, the Commission proposed the construction of a diversion weir and low-level bridge above the waterfall between Tses and Berseba (Odendaal Commission 1964: 403). It was left to the Five-Year Plan for the Development of the Native Areas, which was tasked with operationalising the recommendations of the Odendaal Commission, to propose the construction of 40 small stock dams and 50 boreholes over a five year period in Namaland (SWA nd [1966]: 183).
Table 10: Stocking rates relative to grazing and water points, 1956

<table>
<thead>
<tr>
<th></th>
<th>Berseba</th>
<th>Bondels</th>
<th>Krantzplatz (Gibeon)</th>
<th>Neuhof</th>
<th>Soromas</th>
<th>Tses</th>
<th>Warmbad</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (ha)</td>
<td>596,992</td>
<td>174,505</td>
<td>39,192</td>
<td>20,034</td>
<td>23,573</td>
<td>254,587</td>
<td>14,500</td>
<td>1,123,383</td>
</tr>
<tr>
<td>LSU</td>
<td>24,090</td>
<td>7,570</td>
<td>3,678</td>
<td>1,021</td>
<td>1,373</td>
<td>13,814</td>
<td>1,221</td>
<td>52,767</td>
</tr>
<tr>
<td>Ha available per LSU</td>
<td>25</td>
<td>23</td>
<td>11</td>
<td>20</td>
<td>17</td>
<td>18</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>Estimated carrying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capacity (LSU/ha)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over/undergrazing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dams</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Wells</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>38</td>
</tr>
<tr>
<td>Windpumps</td>
<td>14</td>
<td>12</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>17</td>
<td>6</td>
<td>56</td>
</tr>
<tr>
<td>Engines</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Handpumps</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Average ha per water</td>
<td>25,956</td>
<td>8,310</td>
<td>7,838</td>
<td>4,007</td>
<td>2,619</td>
<td>1,018</td>
<td>2,417</td>
<td></td>
</tr>
<tr>
<td>point</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average no. of LSU per</td>
<td>1,047</td>
<td>360</td>
<td>736</td>
<td>204</td>
<td>153</td>
<td>553</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>water point</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population (1960)</td>
<td>2,408</td>
<td>1,677</td>
<td>618</td>
<td>108</td>
<td>110</td>
<td>1,226</td>
<td>554</td>
<td>6,701</td>
</tr>
</tbody>
</table>

Note: LSU refers to one large stock unit, while SSU refers to one small stock unit. One large stock unit is equivalent to six small stock units.
Water development in Namaland appears to have experienced a boost during the two decades after the Odendaal Commission tabled its report in the mid-1960s. This was undoubtedly related to the addition of freehold farms with water points to the communal areas. This notwithstanding, boreholes as a source of water were regarded as largely underdeveloped and a prerequisite for any further development in Namaland. Earth dams (gatdamme) and open water in the Fish River continued to be an important source of water for communities in Namaland. Moreover, the quality of borehole water to the east of the tar road was described as poor, having had a negative impact on agricultural activities. Only Gibeon obtained water by pipeline from the farm Orab No. 88 just north of Namaland (SWA/Namibia nd: 20). An estimate of the number of boreholes in 1985-86 and 1992 is provided in Table 11.

Table 11: Estimated number of boreholes in Namaland, 1985-86 and 1992

<table>
<thead>
<tr>
<th>District</th>
<th>1985-86</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gibeon</td>
<td>272</td>
<td>279</td>
</tr>
<tr>
<td>Tses</td>
<td>134</td>
<td>164</td>
</tr>
<tr>
<td>Berseba</td>
<td>95</td>
<td>134</td>
</tr>
<tr>
<td>Soromas</td>
<td>70</td>
<td>81</td>
</tr>
<tr>
<td>Dreihoek/Bondelswatts</td>
<td>-</td>
<td>53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>571</strong></td>
<td><strong>711</strong></td>
</tr>
</tbody>
</table>

Source: SWA/Namibia n.d.: Figure 5; MAWRD 1992a: 51

As a result of the increase in boreholes in Namaland, the average area of grazing supported by one borehole had decreased considerably. A survey conducted in 1992 found that one water point served on average 3,283 ha of communal land. This figure excluded private boreholes and natural surface water sources. By contrast, there was on average one borehole for every 1000 ha on freehold commercial farms. Berseba area continued to be the least well-served with water points, with 5,433 ha of land relying on one water point. By comparison, the ratio in Gibeon and Tses was one borehole for every 2,750 ha (MAWRD 1992a: 50). One explanation for this may be that in the case of Berseba not many former settler farms were added to the original reserve.

After Independence, water was identified as one of the most critical constraints in the livelihoods of people in the Nama communal areas. This not only related to the number of water points, but also to the fact that many boreholes were equipped with windmills only. This caused water shortages for livestock and human consumption during the months between November and January, when there was insufficient wind. As water for people and livestock is the uppermost priority, the shortage of water during those months often meant that gardens dried out (MAWRD 1992a: 68, 69).

In line with the government’s policy of Community-based Natural Resources Management, property rights to water points in the communal areas were transferred to local communities of water users. Local-level water point committees are responsible for the maintenance of water points. To facilitate this, water users have to pay for the use of water.
2.6 Fencing

South African land settlement differed from the German system in so far as settlers were expected to obtain freehold title as soon as possible. This required fencing, but the perceived benefits of fencing went beyond securing ownership. In his Annual Report for 1923, the Administrator summed up these benefits as follows:

‘Fencing will go a long way towards solving many of the difficulties with which farmers have to contend under existing conditions, for example labour, losses caused by straying cattle, preservation of veld, controlling disease, etc.’ (UG21-1924: 29)

In 1921, the Fencing Proclamation No. 57 was published. However, this did not deal with issues of range management or even the compulsion to fence, but rather with procedures for erecting fences and their maintenance. Subsequent amendments such as Proclamation 18/1925, for example, prescribed what a dividing fence within the meaning of the Proclamation must be, defined the expression ‘holding’ and empowered the Administrator to divide any district into wards for fencing purposes. An amendment to the Land Bank Proclamation No. 10 of 1922 during the same year provided for the sub-division of districts into wards for fencing purpose and for the declaration of one or more wards into obligatory fencing areas. The amendment also provided for advances to groups of farmers for block fencing and for advances, not exceeding £250, to provide for the supply of water on farms (UG26 1926: 3).

In 1923, very few farms were considered adequately fenced in the country. Farmers were obliged to contribute to the cost of fencing, (UG21 1924: 29). Over the next two years good progress with fencing in the country generally had been made, and several districts had ‘adopted compulsory fencing, every progressive farmer recognising the benefits to be derived from enclosing and camping his farm, and every encouragement is being given by the Land Bank to this end’ (UG33 1925: 41; UG26 1926: 39 ). In 1923, Proclamation No. 13 of 1923 amended the fencing law to enable the Land Bank to make advances to land owners who had, under the law, been obliged to contribute towards the cost of fencing, provided such contributions exceeded £10 (UG21 1924:3). In addition, the continuing labour shortage encouraged the process of fencing (UG22 1927: 12).

By 1926, fencing was obligatory in Keetmanshoop, Aroab and Gibeon districts in the South and most northern districts. In the South, jackal-proof fencing was required to protect sheep against predators, primarily jackal. In 1927, one or two farmers had made a start with jackal-proof fencing, which was regarded as essential for merino farming (UG31 1928: 59). The Land and Agricultural Bank was advancing monies for the purchase of jackal-proof fencing on the following conditions:

- That the applicants were progressive farmers who were farming efficiently with woollen sheep;
- That the applicant possessed at least 2,000 woollen sheep and assets to the value of £4,000;
- That at least two sides of the jackal-proof fencing must be erected on boundary lines on the farm (UG22 1927: 62).

Clearly these criteria excluded poor farmers, as farmers without capital would not be able to repay the advances. Interest rates at the time were 5% (UG22 1927: 62). In order to encourage the development of internal camps on farms, the existing Proclamation was amended to allow the Land and Agricultural Bank to grant monies for the erection of internal fences and not only
boundary fencing (UG22 1927: 62). However, as Bähr (1968:73) pointed out, the development of fenced internal camps could only be considered once water was secure.

Figures detailing Land and Agricultural Bank advances for fencing are not complete. However, the first ten years saw a rapid increase in application for advances, reaching a climax in 1929. During the period of drought and depression after 1929, applications declined again.

Table 12: Advances granted for fencing by the Land and Agricultural Bank of South West Africa, 1923-1932

<table>
<thead>
<tr>
<th>Year</th>
<th>No. granted</th>
<th>Amount (£)</th>
<th>Length of fencing (km)</th>
<th>Average cost per km (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>4</td>
<td>1,110</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>1924</td>
<td>87</td>
<td>29,549</td>
<td>-</td>
<td>17</td>
</tr>
<tr>
<td>1925</td>
<td>190</td>
<td>42,660</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1926</td>
<td>270</td>
<td>52,620</td>
<td>3,379</td>
<td>16</td>
</tr>
<tr>
<td>1927</td>
<td>317</td>
<td>58,415</td>
<td>3,667</td>
<td>16</td>
</tr>
<tr>
<td>1928</td>
<td>287</td>
<td>52,505</td>
<td>3,148</td>
<td>16</td>
</tr>
<tr>
<td>1929</td>
<td>372</td>
<td>68,645</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1930</td>
<td>267</td>
<td>52,525</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1931</td>
<td>99</td>
<td>16,950</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1932</td>
<td>10</td>
<td>1,355</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Having had to contribute towards the cost of fencing added considerably to the debt burden of settlers. In 1935, the Land Settlement Commission, which had to look into the economic position of settlers and recommend relief measures, criticised the Administration for its approach to fencing. The Commission felt that the fencing laws were applied ‘prematurely before there was sufficient knowledge as to whether the costs of fencing would be economic or not’. It argued that in the southern districts, ‘where farms are larger and of inferior quality, the costs of fencing would not be economic’ (SWA 1935:15). As the costs of fencing placed a heavy burden on settlers, the Commission recommended that all loans for fencing be taken over by the Administration from the Land and Agricultural Bank, that the rate of interest be fixed at 3% and the repayment period extended to 20 years and that no further loans for fencing be granted unless the economic position of the applicant had been properly established and the loan could be justified. Moreover, applicants should be required to contribute towards the cost of fencing (SWA 1935: 16).

Despite these reservations, the colonial Administration continued to assist freehold farmers with subsidies and targeted, cheap credits. A precondition for such financial aid was that farms had to be planned by the *Boerderybelangeraad* (rough translation: committee for farmers’ interests). Payments were only made after installations were completed according to these plans and approved by an inspector. By 1962, a total of 3,944 farmers or approximately two-thirds of all farmers, had complied with these conditions and obtained financial assistance. Financial support was limited as shown in Table 13 (page 24). Total subsidies paid between 1952 and 1967 are shown in Table 14 (page 24).
Table 13: Financial support to settler farmers

<table>
<thead>
<tr>
<th>Item</th>
<th>Subsidy (% of cost)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jackal-proof fencing</td>
<td>25%</td>
</tr>
<tr>
<td>Camp fences</td>
<td>25%</td>
</tr>
<tr>
<td>Water reservoirs</td>
<td>33.3%</td>
</tr>
<tr>
<td>Boreholes</td>
<td>33.3%</td>
</tr>
<tr>
<td>Water pipelines</td>
<td>33.3%</td>
</tr>
<tr>
<td>Earth dams</td>
<td>33.3% with a maximum of R1,200</td>
</tr>
</tbody>
</table>

Source: Bähr 1968: 81

Table 14: Capital expenditure on farm development during the period 1952 to 1967

<table>
<thead>
<tr>
<th>Item</th>
<th>Total support (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jackal-proof fencing</td>
<td>1,204,406</td>
</tr>
<tr>
<td>Internal (camp) fences</td>
<td>1,783,100</td>
</tr>
<tr>
<td>Earth dams</td>
<td>158,744</td>
</tr>
<tr>
<td>Water reservoirs</td>
<td>402,519</td>
</tr>
<tr>
<td>Boreholes</td>
<td>822,496</td>
</tr>
<tr>
<td>Pipelines</td>
<td>251,752</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,623,017</strong></td>
</tr>
</tbody>
</table>


Despite these financial incentives, progress in fencing freehold land in the southern parts of Namibia lagged behind the northern areas. Part of the explanation has to be sought in the fact that for several decades, farmers had a cheaper option to protect their small stock than taking up loans for fencing. This option consisted of employing herders to protect small stock against vermin and guide the herd. Secondly, the Fencing Proclamation of 1924 was made compulsory in the North long before it was enforced in the southern districts. Thirdly, farms in the South were much larger than in the northern regions, making perimeter and internal fencing much more expensive for settler farmers. In addition, jackal-proof fencing, required in the South, was more expensive per kilometre than ordinary single-strand wire fencing used. Wire mesh had to be used at great expense and the bottom of the fence was secured to the ground with stones to prevent jackals from creeping through. At an estimated cost of R340/km in the 1960s, jackal-proof fencing was very expensive and was introduced only gradually after the drought of 1944/45. It was common for farmers to fence a small part of their farms with wire mesh while utilising the remainder by making use of sheep herders and gradually extending jackal-proof fencing (Bähr 1968: 74, 75).

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It was estimated that in the 1940s, only 25% of freehold farms in the South were fenced. By the 1960s, most of the farms had perimeter fences, although hardly any farms had internal fences, i.e. camps. Only a minority of farms in the South were regarded as fully-developed by the late 1960s (Bähr 1968: 70, 75). As Figure 4 shows, large parts in the South did not have jackal-proof fencing till the late 1960s.

Despite its costs, jackal-proof fencing in the southern districts entailed several advantages for farmers. Firstly, free-ranging sheep were able to feed and drink at the most appropriate times. In practice this meant that feeding would happen mostly during the cooler times of the day, resulting in better general condition and improved lambing rates. Secondly, sheep no longer grazed in a herd but could spread out. This prevented excessive trampling of grazing particularly around water points. Thirdly, jackal-proof fencing no longer made it necessary to keep sheep in a corral overnight, thus reducing overgrazing around corrals. And finally, jackal-proof fencing relieved farmers of their dependence on sheep herders (Bähr 1968: 79, 80).

With regard to Native Reserves, fencing was regarded as important only for the reserve boundaries. By 1927, Gibeon and Tses were only partially fenced (UG31 1928: 42). Until the 1960s, these reserves had no internal fences. This was to change in the wake of the recommendations of the Odendaal Commission with its vision to transform subsistence farming into commercial farming. What it recommended was a programme of privatisation of communal land and the fencing thereof. Based on the carrying capacity of the proposed Namaland, ‘the Five-Year Plan for the Development of the Native Areas’ (SWA n.d. [1966]: 77) estimated that 4,817 economic units could be developed and proposed to erect 400 km of fences over a five-year period (SWA n.d. [1966]: 182).
However, the Plan also recognised that due to long distances and low rainfall, extensive fencing would be uneconomical. It proposed to introduce rotational grazing ‘by closing water supplies at certain times of the year in consultation with the people’ (SWA n.d. [1966]: 179). In addition, it felt that it was essential to develop additional water supplies to spread livestock more evenly across the homeland. To this effect it recommended drilling 15 new boreholes over the five-year period and constructing 40 dams for small stock (SWA n.d. [1966]: 183).

In the 1980s, the Konsep Namaland Streekstrukturuplan (Concept Structural Plan for Namaland) picked up again on the theme of transforming communal farming. It recommended that in view of the large number of households with fewer than 400 small stock, farms of 2,000 ha should be developed and allocated, with an option to obtain additional land up to a maximum of 8,000 ha. At 8,000 ha, Namaland would be able to accommodate 270 farms and approximately 1,500 people at an average household size of five people. In order to achieve this agricultural potential, it was recommended that planning be started early to create employment opportunities to absorb the ‘surplus population’ that would be left landless as a result of this ‘development’ process (SWA n.d.: 30, 31).

3. Land Use

3.1 Livestock Farming

The primary agricultural industry in the southern districts is extensive small-stock farming. Small-stock farming has a long history in the southern districts of Namibia. Although local Nama-speaking communities were said to be rich in cattle numbers at the beginning of the 19th Century, small-stock farming gradually replaced cattle farming. The incoming Oorlam groups from the Cape brought with them their flocks of Afrikaner sheep as well as cows and draught oxen. As conditions in the south of South West Africa proved to be suitable for small-stock farming, they continued with breeding sheep and some goats. In the 1870s, Rehoboth Basters bought merino in the Cape Colony, and in 1891 and 1892 the Deutsche Kolonialgesellschaft für Südwestafrika imported several flocks of merino sheep from the Cape Colony as well. The first flocks to survive and prosper had been established at Nomtsas in Maltahöhe District in 1897. In 1912, the German colonial government started to provide financial assistance for the production of wool. However, due to the disappointing prices that had been obtained for the wool, only two farms in Maltahöhe District retained flocks of merino sheep by 1924. One of them had around 10,000 sheep (SWA 1949: 32; Silvester 1993: 250).

In 1907, the first flock of 10 karakul sheep arrived in South West Africa from Germany. Although imports of karakul increased to 800 in 1914, settler farmers displayed little interest to take up karakul breeding. By 1913, only 2% of the entire sheep herd in South West Africa consisted of karakul (Barnard 1964: 276).

Despite difficulties in breeding merino sheep in South West Africa, the Mandate Administration encouraged merino breeding. The brochure Land for Settlers stated that ‘farming with merino sheep is destined to have a great future in this territory where shade can be provided by trees and bush and waters are not too far distant’. The districts of Gibeon and Maltahöhe were singled out as being suitable for merino breeding. Districts where fodder was scarce and distant from water such as Keetmanshoop, Warmbad, Bethanie, Maltahöhe, Gibeon and Aroab were regarded as ‘eminently suitable’ for Afrikaner sheep rather than merino (SWA 1921b: 6).
Despite a discouraging start, merino farming was becoming very popular, especially in the southern districts, which appeared very suitable for merino sheep. Believing that the region’s future prosperity rested on wool production, the Administration sought to encourage merino production by providing cash advances to farmers for the purchase of merino sheep (Silvester 1993: 250). In fact, advances for small stock were practically limited to the purchase of merinos. Settlers who applied for advances for Afrikaner sheep could not obtain these and were forced, so to say, to purchase merino sheep. (SWA 1935: 7).

Complementing direct financial support for the acquisition of merino sheep, the South African Railway Administration introduced a rebate on the import of pure-bred merino sheep from the Union of South Africa in 1925, and a few flocks including a number of merino rams were imported from the Union of South Africa (UG26 1926: 39). Two years later 18,198 head of small stock, mostly merinos, were imported from the Union bringing the total number of woolled sheep in South West Africa to 204,842. In May 1927, a sheep and wool expert was appointed to give woolled sheep farming better attention (UG31 1928: 58).

Even though the severe drought in the mid-1920s brought about a gradual rethink of the suitability of merino for southern South West Africa, the Administrator was still optimistic. He noted that although the drought had been severe in 1926, ‘stock was in splendid condition and bore eloquent testimony to the extraordinary fodder value of the dry-looking karoo and other bush’ in the southern districts. He was very optimistic that the southern territory ‘will become one of the most important wool-producing areas in South West Africa’. Although karakul sheep were also popular, this was mostly among German farmers (UG22 1927: 9).

Economic and climatic realities soon put paid to merino farming in South West Africa, the Administrator’s optimism notwithstanding. Farmers farming with merino sheep were particularly hard hit by the drought of the early 1920s, as merino sheep were less drought resistant than other sheep. Declining wool prices in the mid-1920s, an unreliable market and the high costs of transporting sheep to markets in the Union, which absorbed 70% of the sale price, induced farmers to pay more attention to karakul sheep. An added incentive to consider changing to karakul was provided by steady prices for karakul pelts (UG16 1935: 10; Silvester 1993: 261). With karakul farming looking promising, farmers not only shifted away from merinos but also cattle farming. They gradually acquired karakul breeding stock by selling off their cattle (Silvester 1993: 251).

In contrast to wool production from merino sheep, karakul farming continued to be the most stable and remunerative branch of the farming industry in South West Africa (Union of South Africa 1933: 31). Karakul pelts more or less held their prices despite the financial depression. Against this background, it was not

‘surprising that farmers are switching over from other branches of stock farming to the karakul as fast as they can. This breed of sheep seems to thrive wonderfully well in South West Africa, and it will be observed from the census returns that the number of grade sheep increased from 369,000 in 1930 to 514,629 in 1932.’ (Union of South Africa 1933: 31)

With regard to merino sheep, ‘little interest has been taken by farmers in this branch of the industry, and the importation of good rams from the Union has practically ceased’. Wool was virtually unsaleable because of low prices (Union of South Africa 1933: 36).
In its review of the economic position of settlers in 1935, the Land Settlement Commission stated bluntly that South West Africa was not suited for merino farming ‘and that it was an unfortunate mistake to encourage it’ (SWA 1935: 7).

Karakul farming increased rapidly. Even during the drought and depression years of the late 1920s and early 1930s, the total flock increased more than ten-fold from 106,155 in 1926 to 1,125,912 in 1935 (Bravenboer 2007: 362). The gradual increase of karakul peaked at 4,572,794 in 1970, but declined dramatically from 1980 onwards as the market for pelts began to deteriorate. In 2005, the karakul herd in Namibia totalled 183,501 (Bravenboer 2007: 362).

The decline of pelt production started in 1981 as a result of a severe drought in Namibia and poor prices for pelts on international markets. Coupled with increases in farm inputs, ‘the profit margin was forced to an unknown negative level’, and in a relatively short period of time, karakul farming ‘was changed into an insecure, non-profitable farming set-up’ (Bravenboer 2007: 230, 235). Farmers were forced to identify alternative and/or complimentary land uses to survive the crisis in the karakul industry. Many switched to mutton production by introducing dorper sheep and goats (Bravenboer 2007: 260). Although not documented, it is reasonable to assume that many other farmers branched out into tourism and hunting.

Although small-stock farming is the primary activity in the southern districts, cattle numbers increased steadily from 1920 to 1960. In 1921, a total of 92,334 cattle were counted in these districts, rising to 213,780 in 1960. During the ten-year period 1950 to 1960, cattle numbers quadrupled from 40,720 to 213,780. Most of these are found in the eastern parts of the South (Barnard 1964: 262).

The Native Reserves in southern South West Africa do not appear to have benefited from the dramatic rise of the karakul industry. Financial, marketing and breeding support was focused on pelt production in the White farming sector. The Long-Term Agricultural Policy Commission expressed the opinion in 1949 — a year before the total karakul flock in South West Africa exceeded 3.5 million for the first time — that the introduction of karakul to the Native Reserves should be considered. It regarded the karakul as the only practical substitute for goats. Mindful about ‘the effect on the market of pelts of low quality’ and the probability that ‘residents on the reserves do not, in general, have good foundation stock for cross-breeding’ it proposed a gradual switch from goats to karakul (SWA 1949: 52).

In the early 1960s, the total number of karakul sheep on the southern reserves was almost as high as the number of goats. However, not all reserves had karakul as Table 15 (page 29) shows. The Odendaal Commission expressed the view that the freehold farms, which it proposed to add to the Nama Reserves, offered ‘excellent possibilities’ for extending karakul farming in the Nama homeland, as these were by and large established karakul farms with developed infrastructure (Odendaal Commission 1964: 297).
Table 15: Karakul sheep on southern Reserves, 1962

<table>
<thead>
<tr>
<th>Reserve</th>
<th>Karakul</th>
<th>Non-woolled sheep</th>
<th>Goats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bondelsworts</td>
<td>17,498</td>
<td>0</td>
<td>9,803</td>
</tr>
<tr>
<td>Gibeon</td>
<td>-</td>
<td>607</td>
<td>3,667</td>
</tr>
<tr>
<td>Tses</td>
<td>12,388</td>
<td>0</td>
<td>12,455</td>
</tr>
<tr>
<td>Berseba</td>
<td>44,220</td>
<td>0</td>
<td>47,092</td>
</tr>
<tr>
<td>Soromas</td>
<td>470</td>
<td>-</td>
<td>2,226</td>
</tr>
<tr>
<td>Neuhof</td>
<td>400</td>
<td>0</td>
<td>1,023</td>
</tr>
<tr>
<td>Warmbad</td>
<td>1,779</td>
<td>0</td>
<td>2,560</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>76,755</td>
<td>607</td>
<td>78,826</td>
</tr>
</tbody>
</table>

Source: Olivier 1961: 275

3.2 Irrigation Farming

Small-scale irrigation started long before formal colonisation. The first missionary station in Namibia was established in 1805 by the London Missionary Society at Warmbad. Crops grown at Warmbad included maize and potatoes. In 1813, small mission gardens existed along the Orange River at Handaus. Two springs at Bethanie made it possible to irrigate ‘a large number of gardens’ (Schneider 1990: 109, 110). In 1885, Nama people cultivated approximately 2.5 ha of wheat, ‘better, or at least as good as on German soils’. The garden of Missionary Bam at Bethanie had a variety of fruit, vegetables, grapes, figs and pomegranates. It was estimated that by developing water sources along the Konkiep River, 25 to 50 or even 75 ha of land could be irrigated in the district. At Stolzenfels, south of Ariamsvlei, first trials to grow tobacco on 0.25 ha looked promising in the mid-1880s. In 1885, irrigation was started at Aussenkehr. Tobacco, cotton, figs, grapes, oranges, lemons, guavas, almonds and olives were grown under irrigation and marketed in the Northern Cape. A shortage of capital and labour, as well as several pests inhibited the full exploitation of irrigation possibilities along the Orange River (Schneider 1990: 117, 120).

The experiences of missionaries with small-scale irrigation, before formal colonialism began, served as a basis for later developments. In 1885, Missionary Büttner published a detailed account of agricultural and irrigation possibilities in South West Africa (Schneider 1990: 115). However, the potential for irrigation was judged to be very limited in general.

In 1925, the Department of Lands in the Union of South Africa gave permission to a small number of people to settle on land along the Orange River, approximately 150 km west of Karasburg and 120 km north of Springbok. Of the 100 settlers, 40 stayed on the South West African side of the river. A strip of land approximately 24 km along the river and no more than 1.5 km wide was irrigated. In 1933, the State started with the development of water works. Fifty per cent of this land for growing lucerne, and the remainder for beans, potatoes, wheat, cotton and vegetables such as peas and tomatoes. Citrus was the only tree crop (Barnard 1964: 288). Sufficient water proved to be a problem. In November 1962, the Orange River stopped flowing altogether and the Department of Water Affairs had to pump water into irrigation canals from ponds in the river (Barnard 1964: 289).

The Odendaal Commission saw some potential for irrigation along the Fish River. It recommended that water holes in the Fish River, which were expected to become more permanent with the construction of Hardap Dam, should be utilised for small-scale, mobile sprinkler irrigation. Soils
Historical review of land and water use: Orange-Fish River Basin

and climate were considered to be suitable for the cultivation of vegetables and fruit (Odendaal Commission 1964: 297).

In 1962, the Hardap Dam was completed with a storage capacity of 310 Mm³ (CES/LCE Joint Venture Consultants 1994: 2-9). Ten years later the Hardap Irrigation Scheme was started on 2,241 ha of land. The land comprised 44 farming units. In 1994, 33 private farmers utilised these units to grow winter wheat (1,100 ha), maize and cotton in summer (900 ha), lucerne (650 ha), grapes (50 ha) and other crops on 200 ha. Farmers employed approximately 300 families permanently and provided an additional 1,250 families with seasonal employment (CES/LCE Joint Venture Consultants 1994: 2-9). Irrigation farmers at Hardap leased their land for periods of 40 years (Schneider 1990: 54, 97). In addition to the Hardap Scheme, approximately 40 ha of land were irrigated on freehold farms in the Mariental District in the late 1980s, compared to 19 ha in Maltahöhe District. The main crops included vegetables, fruit and citrus. Approximately 4 ha were under lucerne, which was mainly used as supplementary feed for livestock in the district (Schneider 1990: 97; 101).

Approximately 12 ha of freehold land were irrigated in Keetmanshoop District. At Independence the intention was to develop 100 ha of land at Naute Dam for 100 Nama communal farmers (Schneider 1990). On the Namibian side of the Orange River, 50 farmers irrigated approximately 1,516 ha. The largest contiguous areas of irrigated land were 400 ha at Aussenkehr and another 400 ha at Noordoewer (Schneider 1990: 102).

Christellis and Struckmeier (2001: 12-121) mentioned only three irrigation schemes in the Orange-Fish River Basin which use borehole water. These were Kosis (Farm No. 36 south-east of Maltahöhe), which used 0.0063 Mm³ of water/annum for fodder and vegetables in 1999, Mara/Halifax (Farm No. 113 south-west of Maltahöhe), which used 0.0500 Mm³ of water for vegetables and Orab (Farm No. 88 south of Mariental). In 1999, Orab used 0.0750 Mm³ of water/annum for unspecified irrigation purposes.

Table 16: Irrigated land (ha) in the southern districts of Namibia under different crops, 1988 to 1989

<table>
<thead>
<tr>
<th>Location</th>
<th>Lucerne</th>
<th>Maize and sorghum</th>
<th>Cotton</th>
<th>Wheat</th>
<th>Grapes</th>
<th>Vegetables, fruit and citrus</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariental</td>
<td>5</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>Hardap Dam</td>
<td>600</td>
<td>500</td>
<td>100</td>
<td>830</td>
<td>60</td>
<td>5</td>
<td>2,095</td>
</tr>
<tr>
<td>Maltahöhe</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>14</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Keetmanshoop</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Orange River</td>
<td>900</td>
<td>45</td>
<td>100</td>
<td>35</td>
<td>6</td>
<td>430</td>
<td>1,516</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,513</strong></td>
<td><strong>547</strong></td>
<td><strong>200</strong></td>
<td><strong>866</strong></td>
<td><strong>70</strong></td>
<td><strong>486</strong></td>
<td><strong>3,682</strong></td>
</tr>
</tbody>
</table>

Source: Schneider 1990: 95, 102

Irrigated agriculture in the Native Reserves appears to have been limited to small gardens. The results were mixed. In 1933, cereals were grown at Kanikobus (Ganigobes) on the Fish River and results were satisfactory. Gardens at Berseba, however, ‘are a failure and of little or no use to the inhabitants’ (UG27 1934: 41). Parts of the Berseba Reserve were considered suitable for
growing maize, pumpkins and even beans. However, ‘apparently they are too indolent and lazy to help themselves’ (UG27 1934: 41). In 1934, a harvest of 47 bags of wheat was recorded at the garden. This had fired the enthusiasm of people and ‘schemes are now afoot for the sinking of further wells, the enlargement of present gardens and the establishment of certain new ones’ (UG26 1935: 49).

Attempts were also made to develop gardens at Tses. In 1934, a garden of about 2 morgen (1.6 ha) was laid out and provided with a hand pump. The expectation was to harvest 20 to 30 bags of mealies and a similar quantity of wheat annually. The intention was to lay out a further 4 ha in 1935 (UG26 1935: 47).

3.3 Tourism

This report has so far concentrated on agricultural land use activities in the Orange-Fish River Basin. This bias not only reflects the economic importance of agriculture in the Basin, but also the fact that it is well-documented. However, other land uses do exist and will be discussed in this section.

In conformity with the northern parts of the country, tourism in the South has developed gradually in recent years. Although no disaggregated data on the number of tourism establishments is available, it is reasonable to assume that a substantial number of freehold farmers have diversified into tourism. The most common manifestation of this is the development of guest farms and lodges on freehold land. In some instances, commercial tourism operators have bought several adjacent farms and consolidated them into privately-run nature reserves and conservation areas. The most well-known initiative in the Orange-Fish River Basin is the Gondwana Cañon Park, which covers 102,000 ha of land. It converted a former sheep farming area into a conservation and tourism enterprise, offering accommodation in three lodges (Goldbeck and Olivier 2001: 21).

The development of communal conservancies has been much slower compared to the north-western and north-eastern parts of the country. By 2007, three conservancies were registered in the Orange-Fish River Basin — !Khob !Naub (274,700 ha), !Gawachab (13,200 ha) and //Gamaseb (174,800 ha) (NACSO 2008: 65, 66, 68, 96). No freehold conservancies existed in the Basin in 2007. The only such conservancy in the southern half of Namibia was proclaimed north of Aus on the border of the Namib Naukluft Park.

Three protected areas exist in the Basin. In 1965, Ai-Ais was proclaimed as a protected area. In 1969, the Fish River Canyon and in 1988, the Huns Mountains, with its winter rainfall vegetation, were added to this conservation area. Ai-Ais provides accommodation, camping sites and a thermal bath (Baker nd: 41). More recently, the Ai-Ais /Hunsberg reserve complex has been integrated into the Ai-Ais-Richtersveld Transfrontier Conservation Area, forming a natural link with South Africa’s Richtersveld National Park (Hanks 2001: 40).

In 1988, the Naute Dam Recreational Resort was proclaimed. It remains an undeveloped game park with no camping or overnight facilities, but is popular among water sport enthusiasts. In 1979, the previous Administration bought Duwisib Castle, restored the Castle and its original furniture and opened it for the public in 1993. Overnight camping facilities exist at Duwisib (Baker n.d.: 41, 42).
Historical review of land and water use: Orange-Fish River Basin

Hardap Dam is surrounded by an undeveloped but proclaimed game park. Although the game park is not well utilised, the bungalows, dormitories and rooms overlooking the dam are well utilised by tourists. In addition, camping sites and a caravan park are available for tourists (Baker n.d.: 42).

3.4 Urban Development

The first permanent settlements in southern Namibia were established by missionaries. In 1805, the London Missionary Society established a permanent settlement at Warmbad (Bähr 1968: 88). Since the 1830s, it was primarily the Rhenish Mission Society which developed mission stations, churches and schools in permanent localities. These gradually came to form the centre of communities and ‘acted as an anchor for the community’ (Lau 1987: 76 quoted in Kössler 2005: 22).

Churches and mission stations also served as ‘fortifications and as fixed places of call for traders’ (Kössler 2005: 22). Increasingly they became the centres of tribal sub-groupings. The result of connecting more distant outposts to main centres was that territories became more clearly defined with mission stations as their centres. Among these were Berseba for the /Hai-/khauan, Bethanie for the !Aman, Gibeon for the /Khobesin (Witbooi), !Hoaxa!nas for the Gai-//khaun (Red Nation) and Warmbad for the /Gaminûn or Bondelswars (Kössler 2005: 23).

After 1884, military colonisation brought in its wake the establishment of military outposts. These were often established at missionary stations such as Keetmanshoop, Gibeon and Bethanie (Bähr 1968: 89). Gradually these centres were linked by roads and railways. A rail link between Lüderitz, Keetmanshoop and Karasburg was completed in the early 1900s (Bähr 1968: 91).

Developing the railroad system in southern Namibia brought about a shift in the relative importance of existing settlements. Before 1915, Aus, for example, served as an important stop for ox wagons travelling inland from the coast. For as long as the railway line from Lüderitz inland ended at Aus, its commercial importance increased. However, when the second leg of the railway line from Aus to Keetmanshoop became operational in 1907, business activities in Aus decreased dramatically and shifted to Keetmanshoop (Bähr 1968: 92).

Warmbad experienced a similar loss in commercial activity as a result of the railway line. During German colonial rule, the railway line ended at Kalkfontein, present day Karasburg. The establishment of service facilities for the railways in Karasburg was followed by the establishment of hotels, retailers, a post office and police station. This put Karasburg on the map as a commercial centre in southern Namibia at the expense of Warmbad (Bähr 1968: 92). Kalkfontein changed its name to Karasburg in 1939, when it was proclaimed a village (Dorf). Soon after, Karasburg became the main centre of the district and a magistrate’s office was established and in 1947, it officially received the status of town (Bähr 1968: 100).

The economic decline of Warmbad became particularly pronounced after 1916 when the South West African railway network was linked with the Union of South Africa. No new buildings were erected and established businesses left town (Bähr 1968: 100).
In 1911, the construction of the Windhoek-Keetmanshoop railway began and reached present day Mariental in 1912, bypassing a number of old and established settlements such as Gibeon, Berseba and Bethanie. However, it gave rise to a new town, Mariental.\(^7\) Located more or less halfway between Windhoek and Keetmanshoop, Mariental appeared well-suited to accommodate passengers overnight and had enough water from the Fish River to refill the steam locomotives. The result was that after the 1920s, places such as Gibeon lost their earlier importance as commercial and administrative centres (Bähr 1968: 91, 96).

The decline of Gibeon and Warmbad as a result of the growth of Mariental and Karasburg is illustrated by population figures for these urban areas (Table 17).

<table>
<thead>
<tr>
<th>Year</th>
<th>Gibeon</th>
<th>Mariental</th>
<th>Warmbad</th>
<th>Keetmanshoop</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936</td>
<td>434</td>
<td>1049</td>
<td>541</td>
<td>-</td>
</tr>
<tr>
<td>1946</td>
<td>541</td>
<td>1866</td>
<td>546</td>
<td>1092</td>
</tr>
<tr>
<td>1951</td>
<td>435</td>
<td>2307</td>
<td>228</td>
<td>1400</td>
</tr>
<tr>
<td>1960</td>
<td>485</td>
<td>3498</td>
<td>177</td>
<td>2234</td>
</tr>
<tr>
<td>1964</td>
<td>-</td>
<td>4550</td>
<td>-</td>
<td>2275</td>
</tr>
</tbody>
</table>

Source: Bähr 1968: 97, 101

### 3.5 Mining

Mining in the southern part of Namibia started in 1908 when the first diamond was found near Kolmanskop.\(^8\) Soon, rich diamond fields were identified in other localities such as Pomona. In the wake of these discoveries a large number of small mining companies descended on the area, creating chaotic conditions. This prompted the German colonial government in 1908 already to proclaim the so-called Sperrgebiet. All mining rights in the Sperrgebiet were granted to the Deutsche Kolonialgesellschaft, which in turn allocated rights to smaller companies. During the period 1908 to 1913, 20% of all diamonds produced globally originated from southern Namibia.

In 1920, after the Union of South Africa obtained the Mandate over South West Africa, Sir Ernest Oppenheimer consolidated the small diamond mining companies into the Consolidated Diamond Mines of South West Africa Ltd (CDM). It was fully-owned by De Beers, which in turn formed part of the Anglo American Corporation of South Africa. CDM operated from Lüderitz until 1943, when its headquarters were moved to Oranjemund. Oranjemund was established in 1936 to house CDM’s workforce.

Diamond mining was essentially an earth-moving operation. Large amounts of gravel and sand were removed from the beach along 100 km of sea shore. The diamond bearing ore was processed to remove the gems (CIIR 1983: 33). These operations required large amounts of power which was generated by CDM by eight diesel generators. An oil pipeline made it possible to pump diesel and petrol directly from tankers to the shore. Water for Oranjemund was pumped from the Orange River at a rate of approximately 182,000 m\(^3\)/month in the mid-1960s (Odendaal Commission 1964: 337).

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\(^7\) According to Bähr, (1968: 96) the railway station was given the name Mariental after the first settler farm 21 km north of the town.

\(^8\) Unless otherwise indicated this section is based on Schneider 2002.
After Independence, the Government of Namibia acquired a substantial shareholding in CDM and in 1994 a new company, Namdeb Diamond Corporation (Pty) Ltd, was formed. The new company is owned in equal shares by De Beers and the Government of the Republic of Namibia.

The global recession had a major impact on diamond mining and forced Namdeb to send its workforce on a three-month holiday. In addition, retrenchment packages were offered to reduce the workforce. Altogether 520 workers accepted these and left Oranjemund. Oranjemund witnessed a major exodus of people, conjuring up images of it becoming another Kolmanskop unless something drastic was done (Die Republikein newspaper 14.4.2009). Contrary to what even the most successful marketing campaign suggests, diamonds simply might not be forever.

Ever since the discovery of diamonds in 1908, the Sperrgebiet or Diamond Area 1, as it was known under the Diamond Act, has been closed to the public under tight security. As land-based diamond reserves diminished on account of decades of extraction, mining gradually became less profitable. Not only did this imply that diamond mining was increasingly carried out off-shore, but there was no longer a need to keep the public out of the Sperrgebiet. Due to its pristine biodiversity, the Cabinet of the Republic of Namibia decided in 2004 to proclaim the Sperrgebiet a national park. In 2009, the Sperrgebiet National Park covering some 26,000 km² was launched (MET 2009).

Apart from diamond mining, mining in southern Namibia did not play a major economic role until the mid-1960s when the Rosh Pinah zinc mine was developed. Until that time, a number of small mines operated in the region. These included the Sinclair and Lorelei mines which produced copper, the Dassiefontein mine in the Great Karas Mountains which produced beryl and the Auka mine, south of Bethanie, which produced tin and graphite. In 1960 only two mines were in operation, both mining pegmatitic minerals. The most important of these was tantalite which was mined in the Tantalite Valley 30 km south of Warmbad. The farms, Umeis No. 110 and Kinderzilt No. 132, formed the core area of Tantalite Valley. Apart from tantalite, small amounts of lepidolite, columbite, amblygonite, bismuth, beryl and niobium were also mined in the Valley (Barnard 1964: 339-340; FNDC 1989: 224).

In the 1960s, a zinc mine was developed at Rosh Pinah. It was expected to produce 2,000 t of ore a day (Republic of South Africa 1967: 71). The Rosh Pinah Mine has proven reserves of 6 t at an average grade of 8.68% zinc and 2.25% lead, and exploration is currently underway to delineate additional reserves. Rosh Pinah produces some 70,000 t of zinc concentrate and approximately 28,000 t of lead annually (MME 2008). The mine employs over 500 people.

Construction of the Skorpion Zinc mine and refinery commenced in January 2001. It was opened in 2002 and reached full production by August 2006. Situated 25 km north of Rosh Pinah in southern Namibia, the mine produces 150,000 t of special high grade zinc/annum, which is shipped to international markets through the southern port of Lüderitz. Skorpion Zinc employs close to 700 people and has brought a lot of social development to southern Namibia.

The Haib mine is located approximately 3 km north of the Orange River and about 3 km east of Noordoewer. It is a copper mine that is yet to be developed and has been investigated by several large mining companies over the past 50 years including the Rio Tinto Zinc mining group (RTZ). It is important with respect to the Orange River since, if it is developed, it will make use of substantial quantities of Orange River water in order to process the copper ore and also some low grade gold ore. Estimates of the water which will be needed annually by the mine range from the initial figure of 60 Mm³ to more recent estimates of approximately 20 Mm³. The proposed mine is a major development and if it proceeds, will be one of the largest copper
mines in the world with an expected pit of 2,200 m long by 1,500 m wide and 500 m deep. Two grades of copper ore will be processed, the higher grade at 0.41% copper and the lower grade at 0.19% copper. If the mine proceeds, it will be processing some of the lowest grade copper ore to be mined commercially anywhere in the world.

Numerous test pits are currently being examined to assess the viability of the mine and environmental impact studies are being carried out to ensure that any developments will not adversely affect the environment or pose a serious risk to the water in the Orange River.

Following various feasibility studies, the production scenario for the mine is likely to involve an average annual production of 85 000 t of cathode copper. In addition, it will produce an average of 7 000 ounces of gold and 350 000 kg of molybdenum concentrate per year. The life span of the mine is expected to be 25 years (DWAF 2008).

In 2007, a Canadian company announced a new uranium deposit in the Warmbad area along the Gariep River, on the border with South Africa (Finweek 2008: 34).

4. Droughts

Agricultural droughts are a permanent feature of Namibia. The Long-Term Agricultural Policy Commission (SWA 1949: 8) noted in 1949 that,

‘The Territory, has, in brief, no “normal” rainfall as expressed by the mean annual amount of precipitation. What must be accepted in this connection is that drought and flood are normalities; also that there is no regularity in the occurrence thereof; no cycle or secular change can be worked out on the available data that will have any value in the planning of farm management.’

The first drought during the Mandate period was experienced in 1924 to be followed by ‘a period of unprecedented drought in 1929 which lasted until 1934. (KGR Vol.1: 10). Already in 1922, the Administrator noted in his Annual Report to the League of Nations that South West Africa was experiencing ‘the most severe [drought], according to meteorological records, for a period of 30 years’ (UG21 1923: 41). The year 1924 was not a favourable year. Rainfall was poor and some parts of the country had no rain (UG33 1925: 13). In all southern districts the prolonged drought impacted negatively on the farming community (UG33 1925: 13).

Silvester (1993: 258) argued that ‘the drought was longer and harder in southern Namibia than in any other part of the country’. Keetmanshoop, for example, received five inches of rain during 1927 – ‘mostly in patches’. Between 1927 and 1929, Bethanie received in total the rainfall it would normally expect to receive in one year. In 1929, Warmbad, Aroab, Bethanie, Maltahöhe and Gibeon were declared drought-stricken areas, ‘the effect of which was to entitle farmers to very favourable terms in regard to transport by rail of lucerne and their stock to new pastures. Where the railway authorities are satisfied that a farmer cannot pay for the transport of his stock to fresh grazing, promissory notes may be accepted’ (UG23 1930: 28).

During the 1929-1934 drought and depression, losses suffered by settlers were very high. It was estimated that in 1930 over 150,000 sheep and goats died, while in 1933 losses ranged between 500,000 and 600,000 (KGR Vol.1: 10). So severe was the impact that the magistrate in Keetmanshoop commented in 1933 that, ‘I am pessimistic as far as the future of the present farmers of the Keetmanshoop, Aroab and Bethanie District are concerned.’ He noted that many
farmers were unable to stay on the land they were leasing or purchasing and that many had **uitgeboer**, i.e. failed as farmers. Another group of farmers owned nothing as all their possession were the property of the Lands Department; ‘they are occupying government land and living off flocks, in fact, the Administration is maintaining them’ (Silvester 1993: 263).

The impact of drought on settler farmers was ascribed in part to inappropriate farming methods. In 1928, the Administrator commented in his Annual Report that,

‘Methods of utilising grazing and water... often leave much to be desired. The practice of saving pastures by an effective system of paddocking needs wider application, while the conservation of water by the erection of more dams is gaining in favour. Better methods of husbandry, herding, mating and maintenance also require more general adoption on the part of a very large percentage of farmers’. (UG31 1928: 59)

With these statements, he was echoing some of the recommendations of the Drought Investigation Commission which was appointed in June 1923. Its Terms of Reference was to make recommendations on how losses to farmers, as a result of periodic droughts, could be prevented, inter alia by improved farming methods. The Commission was not able to complete its field work due to financial constraints. As a result, it was not able to travel to the southern districts to hear evidence. This notwithstanding, several of its recommendations with regard to preventing and/or mitigating the effects of drought have a bearing on commercial farming generally.

A central tenet of its recommendations for drought prevention was that controlled grazing was necessary to set pastures aside as spare grazing for times of drought. This required boundary fences and fenced paddocks. The Commission reasoned, however, that unless each paddock had its own water, the system was compromised. The Commission also considered the merits of establishing reserve farms as the Germans had begun just before surrender, but concluded that instead of keeping a certain percentage of each district as reserve grazing, such land should be used to enlarge existing farms. This would place the land under the control of the farmer (Union of South Africa 1924: 56, 57). The Commission was lyrical about the advantages of fencing.

‘Fencing will render controlled grazing and efficient grazing possible. Thereby it will reduce soil erosion. It will enable the farmer to breed better stock, it will tend to prevent the spread of disease, and it will reduce the amount of labour necessary on the farm. It will reduce the number of roads and cattle tracks. It will reduce the stock-theiving. Fencing is therefore to be encouraged in every way possible’. (Union of South Africa 1924: 106)

However, the Commission considered water development as an essential element of rotational grazing by way of fenced paddocks (Union of South Africa 1924: 61). It argued that during droughts, livestock did not die because of a shortage of water ‘but from want of veld’. Farmers by and large were not able to utilise all their land for grazing due to the absence of water points that were distributed across their farms. Consequently, the Commission found, the volume of water of a water point was less important than the correct siting of water. This would ‘make the more economical grazing of the veld possible’ (Union of South Africa 1924: 65).

In view of these findings, the Commission recommended that the State should provide loans to farmers to encourage fencing and paddocking as well as water development (Union of South Africa 1924). Payment for water drilling should also be according to water delivered rather than according to the number of days spent drilling. A subsidy should be paid for drilling for water ‘in parts of the farm where water development in other ways is impossible’ (Union of South Africa 1924: 106, 107).
Little attention was paid to the recommendations of the Drought Commission in subsequent settlement policy. In fact, critics ascribed the devastating impact of drought and financial depression on White settlers in the early years of the Mandate to a failed land policy. In his evidence to the EFRC in 1935, a member of the Legislative Assembly of South West Africa, Lardner-Burke, stated bluntly that,

‘The Union of South Africa does not appear to have carried out any proper investigation of farming conditions as affected by periodic drought, although it had at its disposal statistics regarding rainfall which had been compiled by the German Government from 1890 onwards.’ (UG16 1935: 205)

In addition, land-hungry farmers in the Union of South Africa, ‘who were attracted by the favourable conditions offered under the land settlement scheme’, were not made aware of the fact ‘that they were merely joining a community which, only under most favourable circumstances, could make a bare living’ (UG16 1935: 207).

During the first half of the 1920s, the main consideration of the Union in its land settlement policy was to ‘consolidate the Unions’ own position in the Mandated territory, i.e. to establish in South West Africa as many Union nationals as possible’ (UG16 1935: 157). To do so as fast as possible, the Administration was rather lenient in the implementation of its policy. Amongst other things, it permitted settlers from the Union to occupy land without sufficient water. This did not matter too much during good rainy seasons, when farmers could carry on farming while waiting for boreholes to be drilled or small dams constructed. However, during droughts,

‘the unfortunate settler who had selected a dry farm found himself in an awkward and difficult position. In many cases he had to trek to some other holding, where he had to pay for grazing and watering his stock and so depleted his cash capital which he intended to utilise for building purposes and development of his farm. Then again the boring machines were prevented from drilling holes on a number of such farms owing to the absence of water of which a large quantity is required for the working of these machines), which in some instances had to be carted from six to ten kilometres away from the scene of operations.’ (UG21 1923: 37)

The Administration settled Whites on land ‘without due and reasonable consideration of finance and farming conditions in South West Africa’ (UG16 1935: 152). At least initially, the land settlement scheme was meant to be ‘a poor man’s scheme [i.e.] for a man of moderate means. It was certainly not designed for men of capital’ (Union of South Africa 1936a: 32). This might have been one of the reasons why the Administration relaxed the minimum capital required to be considered for settlement from £500 required during the German colonial period to £250. But in selecting settlers, this amount

‘was not too carefully scrutinised. As a rule, a settler would make up a statement that he possessed so much stock. When he fell short of the amount fixed, he just made it up by furniture and farming implements.’ (KSW 3 1935 Evidence H. P. Smit: 1474)

The consequence of this policy was that the majority of farmers lacked their own financial means to develop their farms let alone cope with weather droughts and depressions. Without generous State advances and loans, settler farmers would not have been able to establish themselves. To compound matters, farmers were forced to make risky investments in water. In the first instance, it was the policy of the Administration to sell farms only once secure water had been found. Secondly, a farm could only be fully utilised if sufficient water points were provided for rotational grazing. In many instances the Irrigation Department was accused of having drilled
boreholes on or near the boundary of a farm, so that the main portion could not be used for grazing (Silvester 1993: 269).

At the same time, the Administration’s ‘liberal policy as regards advances’ contributed greatly to their inability to cope with the devastating drought of the late 1920s and early 1930s (SWA 1935: 6). The advances provided for dwelling houses, fences, camps, kraals, reservoirs, dipping tanks etc. without proper supervision as to whether these advances were used for the intended purposes or not. Advances for the purchase of livestock were granted ‘without proper control of the farming operations’. The Land Settlement Commission felt that due to this system of advances and, in particular with regard to the obligation - ‘under threat of cancellation of their leases’ - to build dwelling houses, the liabilities of settlers were ‘increased by a huge unproductive sum’, which they often could not manage (SWA 1935: 6).

Merino sheep farmers were hit hardest by the 1929-1934 drought. On the one hand, merino sheep proved more vulnerable to drought, while on the other, wool prices failed to adequately compensate for the cost of production (Silvester 1993: 260). The Land Settlement Commission described the introduction and encouragement of merino farming as ‘an unfortunate mistake’ with ‘fatal consequences’ (SWA 1935: 7-8). Because the market for merino sheep and wool had all but collapsed in the early 1930s, farmers began to cross merino with karakul sheep. The Land Settlement Commission regarded this as a serious threat to the karakul industry and recommended that the Administration ‘should make all possible attempts to protect the karakul industry’ by assisting farmers to get rid of their merino sheep as soon as possible (SWA 1935: 8). Undeveloped markets for merino sheep in particular prevented farmers from selling sheep at a profit when necessary.

State support to farmers during the drought and depression years was fundamental in enabling them to survive. The Administration responded to droughts and economic depression with generous assistance to settlers on a regular basis. During the 1921 to 1924 shock, the value of settlement farms was reduced by 25% and a remission of rent was provided for in respect of the first period of the settlers’ leases (1921-1924). In 1933, charges made by the Irrigation Department for water boring were reduced and outstanding debts for wells that failed to yield water written off. Advance payments of £400 were made to farmers to enable them to replace lost stock. This was sufficient to purchase 700 to 800 sheep. Proclamation No. 205 of 1932 suspended the payment of arrears of interest and rent which had previously to be paid off as a precondition to the granting of Freehold Title. The Settlers Relief Ordinance No.12 of 1935 wrote off rent and interest due on farms for the period 1932 to1934 and converted any payments that had been made into credits (Silvester 1993: 270). These measures came on top of a revaluation of farm land, on which payments were based. Generally, the value of land and improvements thereon were reduced (Silvester 1993: 271).

In addition, the Administration extended instalment payments due by farmers to the Land and Agricultural Bank for their farms and provided for the adding of a certain amount of interest to capital. The provisions of the Fencing Act were suspended, debtors to the Administration ‘were granted what was virtually a moratorium’ and export subsidies were paid. For settlers out of work, relief works were started (KGR Vol.1 : 11). As part of its assistance, the Administration provided a 25% subsidy for wool and subsidised railway rates. ‘Vacant Crown Lands were made available to White farmers at “reduced or nominal rates”, the Administration guaranteed promissory noted for the railage of stock to fresh pastures and lent boring machines to farmers to drill for water’ (Silvester 1993: 262).
Apart from State assistance, farmers had their own ways of coping with drought. But these coping strategies had their limits. They coped with a year-long drought, for example, by killing lambs to save the ewes. This strategy worked when one poor year was followed by a better one for the ewes to recover. But a three-year drought was more serious. It damaged the productive and reproductive capacity of the flock. Farmers with cash could hire grazing on Crown Land and travel by trek or train in search of grazing (Silvester 1993: 259-260).

During the early years of settlement, the absence of fences and large tracts of unallotted land across South West Africa provided settlers with some flexibility to move their livestock around. In 1924, many farms had open government ground around them on one or more sides. ‘On these farms farmers grazed their stock freely as they wished. Theoretically they were farming on 5,000 ha, actually their animal grazed over 10 or 15,000 ha.’ As farms were gradually being taken up and fenced, the grazing areas available to farmers decreased. Those farmers with access to open land were reluctant to fence (Union of South Africa 1924: 56).

Mobility constituted a major strategy to cope with drought and the lack of water. The system of granting monthly grazing licences ‘allowed White farmers the flexibility to move their flocks to a new farm once the resources available on another had been exhausted’ (Silvester 1993: 237). Black farmers faced regulatory restrictions on moving livestock. They needed permits. Whites did not need permits but faced financial difficulties. Wealthier farmers could transport their entire flocks to new pastures, but this option was beyond the scope of most farmers due to the financial costs involved. For them, losses of 80 or 90% during the 1929-1934 droughts were typical. By 1933, 80% of farmers in Warmbad District were ruined; 60% were actually relying on pauper’s rations issued by the police (Silvester 1993: 266).

Silvester (1993: 264, 265) describes the history of a White farmer who had bought a 11,819 ha farm in Warmbad District. The farm suffered from unreliable water supplies forcing him to constantly move with his livestock. His treks included a brief stint in the Bondels Reserve, where he hired grazing and water, as well as Namaqualand. His farm was only adequate during the rainy season around Christmas time. It was also common that farmers who had insufficient grazing for their livestock moved their livestock to another farmer without paying grazing fees. When confronted about this, the owners of such farms usually replied that the stock-owner had been given free grazing in return for work on the farm (Silvester 1993: 263; 268).

Transhumance was the only manner in which farmers in the Bethanie District were able to survive. Although water in the district was scarce and comparatively deep, carrying capacity was fairly high. Settlers were able to utilise these pastures by implementing mobile grazing strategies. In the mid-1940s,

‘The farmers of this district must trek nearly every year, and the only available succour is that offered by the area known as the ‘winter rains area’ lying in the south-eastern corner of the Aus ward of the Lüderitz District. If it was not for this unoccupied region, thousands of small stock would have died again this year, through lack of grazing. Your commission therefore wishes to recommend very strongly that the aforementioned area, as also the unsurveyed portion situated inside the Bethanie District south of the railway line, should not be surveyed and allotted as farms. If this land is alienated it can easily lead to a catastrophe in lean years for the Bethanie-Aus farmers.’ (SWA 1946a: 36, 37)

Although officially restricted to Native Reserves, transhumance continued to be an important strategy of livestock owners in the southern reserves for a number of years after the proclamation of the reserves. In 1927, the Administrator wrote that with a few exceptions,
the inhabitants of Berseba, for example, were fairly well-off in livestock. He described them as a nomadic tribe which shifted its quarters periodically in search of better grazing for their livestock.

‘The principal supply of water for the stock is derived from the pools in the Fish and other rivers, and outside this water supply there are a few springs and wells. The natives are at present busy sinking further wells to enable them to reach certain grazing grounds with their stock. The Reserve is not fenced, but the members of the tribe are at present endeavouring to obtain permission from the Administrator to erect fences on irrigation plots of ground at the village of Berseba for the purpose of sowing wheat and corn and laying out a plantation of trees, as there is a strong supply of water at these plots which can be easily opened.’ (UG31 1928: 35)

Freedom of movement, while an indispensable strategy to cope with drought, also had its drawbacks. Once rains had fallen, farmers tended to concentrate their livestock in limited areas to derive maximum benefit. This put excessive strain on resources, in particular water, and facilitated the spread of disease (Silvester 1993: 263, 264).

The division and allocation of land into a patchwork of privately-owned farms meant that areas that had traditionally been used as reserve grazing during times of drought were no longer available (Werner 1998: 142). This was as true for settler farmers as for people restricted to Native Reserves. In the mid-1930s the South West Africa Commission (SWA 1936: 74) observed that,

‘The establishment of reserves and the introduction into the Territory of fencing laws, have somewhat restricted their [blacks] liberty of movement, therefore diminishing their resistance, according to their habits of life, to the periodic droughts ...’

In 1952, the Land and Agricultural Bank warned that as a result of settlement, farmers could no longer rely on being able to trek to new pastures on vacant land when resources became inadequate (Silvester 1993: 275).

The gradual disappearance of vacant grazing land appears to have made droughts ever more devastating in their impact. Silvester (1993: 278) argued that the drought in the mid-1940s had more serious impact than previous droughts because of the close settlement of the land. Given the lack of reserve grazing in South West Africa, farmers moved a total of 229,669 small stock to the Karoo (virtually the whole small-stock population of Warmbad District) (Silvester 1993: 278).

The setting aside of reserve grazing for periods of drought was considered by the General Rehabilitation Commission in 1946. It did not recommend such a course of action, ‘except in areas where grazing may be found during a short period of the year and where the land is unsuited for permanent farming operations’. Instead it argued that as regular droughts were a feature of farming in Namibia, this was to be kept in mind when stocking a farm in order to make sufficient grazing available in times of drought (SWA 1946b: 32). This recommendation was supported by the Long-Term Agricultural Policy Commission, which justified its support by stating that knowledge about the availability of reserve grazing was likely to ‘encourage the selfish farmers to continue overstocking their farms’ (SWA 1949: 23).

Poor farming practices contributed towards susceptibility to droughts. The Long-Term Agricultural Policy Commission observed that while karakul farming had increased the overall productivity of the land, the very fact that karakul produced better returns with smaller flocks meant that,
‘these same circumstances have enticed the speculative and selfish farmer to enrich himself by overstocking his land to a degree which can scarcely be comprehended. This, and not the karakul, has created desert islands far beyond the reach of the actual desert.’ (SWA 1949: 32)

By 1960, the southern districts were considered to be overstocked by 14%. The Annual Report for Agriculture for 1961-1962 observed, *inter alia*, that,

‘It is apparent that the stocking rates practiced by most farmers in normal times make no allowance for abnormal conditions and when disaster comes, either in the form of drought or disease, they are unable to weather the storm.’ (Barnard 1964: 260)

As vacant land became less and less available to settler farmers, the issue of farm sizes became more prominent. In 1920, the Land Board recommended that farm sizes in the South were to be 12,000-15,000 ha, in accordance with the carrying capacity of the veld (UG16 1921: 15). In 1944, the Administration appointed the Minimum Area of Farm Commission to look into this matter and make recommendations in this regard. These were never taken up by the Administration (Barnard 1964: 252).

Farm sizes in the southern districts appear to have changed over time. In 1913, the average farm size in those districts was 15,800 ha declining gradually to 9,098 ha in 1960 (Barnard 1964: 250, 251). In 1982, the average size of farm businesses ranged between 6,435 ha for Mariental District to 12,545 ha in Bethanie and 19,086 ha in Lüderitz (Harrison 1983: 103). By 1991, the average size of farm businesses ranged between 8,835 ha in Mariental District and 14,883 ha in the Bethanie/Lüderitz districts, suggesting that a consolidation of freehold land had taken place (MAWRD 1991: 130).

It is not clear whether this process was related to the recommendation of a team of consultants, which was appointed in the early 1980s by the Administration for Whites to look into the restoration of the profitability of farming in South West Africa/Namibia (Harrison 1983). This initiative was the result of a severe drought and declining profitability in the commercial farming sector. A general recommendation was that small-scale farmers should be eliminated in order to consolidate farming units in the interest of increased profitability. While these recommendations would have led to ‘a very satisfactory level of profits in the Mariental District’, the same would not have applied to Bethanie and Maltahöhe districts. The stocking densities in both districts were so low as a result of drought and other factors, that ‘investments involved in bringing livestock numbers up to an acceptable level on large enough units to yield a profit would appear to be impossible to achieve’.

The conclusion was ‘that it may not be sensible to resuscitate these two particular districts along traditional lines’ (Harrison 1983: 37). The consultants stated that under the best possible conditions no more than 104 farmers could be ‘sensibly accommodated’ in the Bethanie District compared to the existing 142 farmers (Harrison 1983: 38). Despite the process of consolidation that appears to have taken place, 73.5% of farm businesses in the low potential sheep farming areas of Maltahöhe, Bethanie and large parts of the Keetmanshoop and Karasburg districts were considered too small to ensure a stable and sufficient income. In the high potential sheep farming areas, 54.5% of farm businesses were considered too small. The minimum number of livestock required to ensure economic viability and a satisfactory income was set at 2,000 small stock units by the Agricultural Policy Advisory Committee in 1983 (MAWRD 1991: 132, 133).
5. Conclusion

Since recorded history, the area falling within the Orange-Fish River Basin has undergone significant transformation of land use. The pre-colonial system of tenure and grazing was characterised by flexibility, which allowed for the utilisation of sparse water resources and grazing. In time and through processes of land dispossession this was replaced by a system of tenure that gave exclusive rights to White, and of late, Black land owners. This process was possible in part through the development of artificial water points by embarking on large-scale drilling programmes. The price for increasing land settlement under a tenure system of exclusive property rights was the loss of flexibility required to withstand regular droughts.

None of this would have been possible without major financial support for White settlers from the colonial administration. Repeatedly, farmers were bailed out of catastrophes induced by drought and financial depression by generous government support in the form of rebates on debt, subsidies and relief work. The original Black communities in the South did not benefit. They were reduced from a people described as rich in cattle and small stock in the early 19th Century to subsistence farmers who are dependent on off-farm income to make ends meet.

The inequalities brought about by pre-Independence policies of land and water development led to reforms in the water and land sectors. In 1995, the Agricultural (Commercial) Land Reform Act provided the legal basis for the acquisition by the State of land held under freehold title for redistribution to previously disadvantaged Namibians. Reliable figures about the number of farms redistributed in the Hardap and Karas regions are hard to come by, but in August 2007, 25 freehold farms had been purchased and redistributed in Hardap Region alone. In addition, more than 60 farms in the two southern regions were acquired by individuals under the Affirmative Action Loan Scheme. Available evidence suggests that the change in ownership did not introduce major shifts in land and water use, as most beneficiaries of these land redistribution programmes appear to continue with extensive livestock farming on their land.

As the Government of the Republic of Namibia addressed the skewed ownership of land through a process of land reform, the water sector was also subjected to review. This process resulted in a National Water Policy White Paper which was approved in 2000. One rationale for engaging in this process was the view that the water needs of the majority of the Black population living in rural areas were neglected under the pre-Independence regime. The policy and subsequent Water Resources Management Act of 2004 reiterated the principles of community involvement and participation in water management. These were articulated in the Water and Sanitation Sector Policy which was approved in 1993. In terms of this policy, the ownership of water points in communal areas was transferred to local communities in order to enable them to choose the type and level of service delivery acceptable to them. These reforms meant that the government reduced its involvement in providing and paying for water services in communal areas by shifting this responsibility to rural communities (Republic of Namibia 2000: 14).

The National Water Policy White Paper and subsequent legislation also introduced the concept of a basin-scale framework for water resources assessment and management (Republic of Namibia 2000: 16). The basin management approach is regarded as essential in promoting integrated water management by providing a framework which facilitates the balancing of economic, social and environmental needs and challenges in deciding on the most sustainable use of water.

As major water intensive economic developments are taking place in the Orange-Fish River Basin, an integrated approach to water management appears to become increasingly important. New mines, for example, are expected to increase the demand for water in the Basin.
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