GEOGRAPHICAL FEATURES

Much of southern and western Namibia is used for small stock farming. This is a semi-arid area lying between true desert to the west and savanna woodlands to the east and north. Average annual rainfall ranges between 100 and 250 millimetres per year, but there is a very high degree of variation in rainfall from year to year (see page 24). The farming system covers about 33% of Namibia, and extends over most of Hardap, Kaïs, much of Erongo, south-western Kunene, and small parts of southern Khomas and Omaheke. A large part of the chapter is based on a recent comprehensive report on the small stock industry in Namibia.¹

Landscapes in southern Namibia are mainly flat. The south-eastern areas to the east of the Weissrand are covered by long sand dunes and linear inter-dune valleys. Gravels and a thin cover of soils predominate elsewhere in other areas of this farming system. The western areas of Namibia are topographically much more rugged because of the greater variety of geological formations found there, as well several westerly flowing rivers that have carved valleys through the hills. The rivers are ephemeral linear oases lined with trees and shrubs that are sufficiently dense in some places to form riparian forests. Farm animals depend heavily on browse and fallen pods from this vegetation, as well as on its shade.

The main environmental resource to make small stock farming possible is the presence of relatively abundant shrub vegetation, which forms the mainstay food for sheep and goats. The plants are perennial, unlike most grasses that are only abundant after sporadic good rains. Moreover, in the absence of regular rainfall farmers can never depend on a reliable supply of grass, as would be needed for cattle. Livestock farming in these really arid areas thus has to use the only dependable forage: woody and succulent shrubs.

Farming revolves to a great degree around the availability of water. Homesteads and kraals are sited at water sources, which are generally boreholes using windmills or diesel pumps to supply water to reservoirs and drinking troughs. All

Small stock come in many shapes, sizes and colours, including Damara sheep (top left), various indigenous breeds of goats (top right), and Boer goats and Blackhead Persian sheep (bottom).
farm animals should drink at least once each day and their foraging is thus restricted to feeding areas within walking distance of water points. The concentration of livestock around water results in zones around sources of water being severely overgrazed and trampled. Most other sources of water are seasonal pools of rainwater, particularly in the ephemeral rivers in the west. In places, farmers have dug into the sandy beds of these rivers to give their animals access to water lying close to the surface.

Invasive bush growth - mainly by driedoring - has led to a loss of agricultural productivity (see page 31) in large areas of eastern Hardap and Karas. It is commonly believed that this bush encroachment has been caused by overstocking and overgrazing. However, the problem is less severe than in the Cattle ranching areas to the north (see page 42).

**SOCIAL ENVIRONMENT**

Archaeological evidence shows that small stock have been farmed in at least parts of this area of Namibia for at least 1,000 years. Pastoral nomads then moved their livestock and homes between seasonal water sources and grazing. It is only in the last hundred years that permanent farms have been established as a result of the introduction of boreholes and surveyed, fenced farms.

<table>
<thead>
<tr>
<th>Tenure type</th>
<th>Square kilometres</th>
<th>Households</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freehold farms</td>
<td>214,000</td>
<td>9,700</td>
<td>40,000</td>
</tr>
<tr>
<td>Communal land</td>
<td>61,000</td>
<td>6,300</td>
<td>27,000</td>
</tr>
<tr>
<td>Total</td>
<td>275,000</td>
<td>16,000</td>
<td>67,000</td>
</tr>
</tbody>
</table>

A total of approximately 16,000 households and 67,000 people form part of this farming system, which occurs within two land tenure areas. Each of these might be regarded as a farming system in its own right. The first consists of communal land in Erongo, the Aminuis area, the so-called Hoachanas, Bondelswarts and Warmbad reserves, and the former Namaland in Karas and Hardap. All these communal areas support about 6,300 households.

One condition perhaps best describes the majority of households in the communal land of southern Namibia: poverty. Most of these farmers have but small flocks of goats and sheep, and a few cattle. For example, over half of all households have less than 100 goats, more than two thirds have less than 50 sheep, and more than three-quarters of households have less than 10 cattle (see Figure 23). Women are often the head of the household. The majority of residents are children or pensioners, since most people of a working age have left their rural homes to work in towns. Dependency ratios are therefore very high, and often above 60% (see page 34). The majority of adults have little or no schooling. Alcohol abuse is high, and most household income comes from pensions and remittances. Many homes are rudimentary structures, mainly built from discarded corrugated iron.

These are the general conditions that hold in many households. However, the communal areas are also farmed by a significant number of much wealthier farmers who have hundreds of animals. They make up perhaps 10-15% of all farmers, and many are absentee or weekend farmers. Substantial competition for grazing occurs between them and poorer farmers when the richer farmers graze their large flocks around established water points after rain has fallen and fresh pastures are available nearby. However, once this grazing is depleted their flocks are moved further away to areas that have not been grazed. These are far from permanent water, and the wealthier farmers then use vehicles to cart water to their animals. Poorer farmers do not have these means to transport water, and so their flocks remain close to permanent sources of water. Having little to eat, the growth and production of their animals suffers.

The second land tenure category consists of approximately 2,000 freehold farm units. The 2,000 owners employ approximately 7,600 labourers, at an average of 3.8 workers per farm unit. About 10% of all labourers are employed on a temporary or casual basis. Most of the farm units are large, ranging from 7,000 to 15,000 hectares. Those farms in the Rehoboth District are an exception, however, having steadily been subdivided into smaller units when family farms were split up among the heirs of previous owners. The majority of the Rehoboth farms now cover between 1,000 and 3,000 hectares.

Farming provides most freehold farmers with their sole or main source of income. On average, the majority of the farmers have high levels of education, most having completed some technical or academic training at a tertiary level. Each farmstead is a substantial complex of a stone or brick-built home, workshops, garages, storerooms, houses for labourers, kraals, reservoirs and pump rooms. Some of the farms earn additional income from tourism, trophy hunting and game sales, but these activities have been developed much less than on Cattle ranching farming system areas to the north.
FARMING PRACTICES

In the longer term, farming practices aim largely at the maintenance of flocks, the production of lambs, and maximizing their growth to a marketable size. However, day-to-day practices are mostly geared towards finding grazing and browse, supplying water and protecting livestock against predators. Two costly assets do much to facilitate these needs: water points and fences. Both are relatively well provided and maintained on freehold farms, but poorly developed in communal areas.

Freeholds farms are generally divided into camps, each with access to a water point normally fed from a nearby source or using extensive pipelines from boreholes further away. Livestock are similarly divided into flocks, typically of several hundred animals per flock. For example, a farm of 10,000 hectares might support 2,000 sheep in five flocks, and be divided into 25 to 40 camps. The flocks are rotated among the camps to give the animals the best quality, variety and quantity of forage. Each flock may spend several weeks in a camp.

Fences also help protect livestock from theft and predators, the commonest of which are jackals. The fences make it easier for farmers to locate their flocks as well – imagine trying to find sheep scattered across 10,000 hectares. Each flock is usually managed by a shepherd who, for example, ensures that water points are working, fences are intact, stray animals are found, and the flocks are placed in kraals to protect them against occasional very cold weather.

Many farmers provide their livestock with enriched licks (usually containing salt and phosphates) in winter and early summer when the nutritional quality and palatability of pastures is lowest. Vaccinations are provided against botulism, pulpy kidney (enterotoxaemia), Clostridium septicum and pasteurella (a major cause of goat deaths), and against scabby mouth and blue tongue in wet years.

Sheep and goats may breed at any time of the year. Dorper ewes mated between February and May produce more twin lambs than ewes that conceive at other times. This may be desirable from a numerical point of view, but the lambs are then born between June and September when pasture conditions are usually poorer than at other times. That constraint – and the extra demands that two lambs make on a lactating ewe – causes twins to wean at lower weights than single lambs. A more productive approach is to introduce rams to ewes in August and September. Their lambs are then born in December or January when the summer rains should have fallen and pastures are best. Over and above these seasonal variations, lambing percentages vary from year to year according to pasture conditions. Very dry years result in low rates of lambing and poor rates of growth.

Since lambs are the main products of this farming system, the great majority of animals are reproductive ewes. On average, most farmers maintain the following ratios of Dorper sheep: 6% rams, 60% breeding ewes and 15% replacement ewes and rams. Among Karakul the ratios would be 3% rams, 75% ewes and 15% replacements. Farmers who can afford to do so, control and improve the quality of their livestock by...
introducing stud animals to their flocks. About 20,000 stud animals were registered in 2003 by breeders’ associations for various types of small stock. The associations had 246 members who produce stud small stock.

Although densities vary greatly across the country, and from farmer to farmer, the stocking rates on most freehold farms range between 2 hectares in the wettest areas and 10 hectares per small stock animal in the driest areas. All small stock breeds are not the same, however. For example, a Dorper ewe weighing 65-70 kilograms and raising her lamb over four to five months requires as much food as 1.5 Karakul ewes. This is because Karakul ewes weigh 45-50 kilograms and their lambs are slaughtered immediately after birth. Stocking rates of Karakul may thus be 50% higher than those of Dorper. Similarly, Dorper sheep require as much as double the farm area as Blackhead Persian (or Fat-tailed) sheep because they need more, and higher quality food. Farmers with low stocking rates can be more certain of maintaining good pastures, while farmers who stock heavily will produce more lambs and higher incomes in some years, but then risk the of losing much of their stock if little or no rain falls.

**SMALL STOCK BREEDS**

The Small-stock system focuses very largely on sheep (including Karakul) and goats. About 85% of sheep, 90% of Karakul and 26% of all goats in Namibia are within the farming system. The approximate distributions of these animals are shown in Figure 24. The only significant, but small numbers of livestock are those of cattle (about 180,000 - mainly in the northern areas), and ostriches, of which there were about 31,000 in 2004 (see page 62).

The percentages of small stock given above are estimates for the whole farming system area. However, there are substantial
differences in the proportions of livestock between freehold and communal farms. Sheep dominate livestock holdings on freehold farms, whereas communal farmers have higher numbers of goats and cattle, and fewer sheep. Breeds of sheep also differ. Karakul are favoured by communal farmers in the southern regions, Damara sheep predominate in the flocks of communal farmers in Erongo and Kunene, while freehold farmers mainly farm with Dorpers (Figure 25).

Sheep

The biggest change to this farm system in recent decades involved the almost complete replacement of Karakul sheep production with mutton sheep farming. During the 1940s and 1950’s, for example, Karakul comprised about 70% of an estimated 4.5 million small stock south of the veterinary cordon fence. The rest were goats and mutton sheep. In 2004, by contrast, only 8% of all sheep and 4% of all small stock in Namibia were Karakul.8

Several breeds of mutton sheep and cross-breeds or hybrids are now farmed in Namibia, of which the main ones are Dorper, Damara, Van Rooy and Blackhead Persian. Each has particular characteristics that shape its potential for meat production. Dorper is the breed known best, and it forms the backbone of the country’s mutton industry. According to various estimates, between 50 and 65% of all sheep are Dorpers. The breed was developed for farming in arid areas, and is now widely regarded as a source of high quality mutton. Rates of reproduction are high. Of all the lambs born in a year, 80 to 85% may reach weaning and marketable weights of 32 to 36 kilograms at ages of four to five months. Once slaughtered, an animal of that weight would produce a carcass weighing 16 to 18 kilograms.

While Dpers produce valuable meat, several factors limit their production in Namibia. They require more water and high quality food, and are more vulnerable to parasites than some other breeds. Dpers also do not flock as well, with the result that they are difficult to shepherd and are unsuited to unfenced communal farmland. Overall, production costs are comparatively high because of the risks of losses and the low stocking rates for the breed.

As a breed indigenous to Namibia, Damara sheep are hardy, being well adapted to conditions of limited water and food supply. Other attractive features include its tasty meat, good resistance against parasites, and a varied diet with up to 64% of its food consisting of browse (this is similar to goats and higher than other sheep that eat more grass). Damara ewes also take exceptional care of their lambs. The breed is well suited to communal areas because it requires relatively little care. There is an increasing demand for its genetic material amongst sheep breeders elsewhere in the world.

Van Rooy sheep have favourable characteristics that include hardiness, high rates of ram fertility, strong flocking behaviour, unlimited mating season and good maternal care. The breed originated in South Africa. By contrast, Blackhead Persian sheep probably have their origins 4,000 years ago in Somaliland and Arabia. These small sheep have lower needs for food and water, and greater heat tolerance and fertility than most other breeds. They may breed in any season, and have high resistance against disease and parasites. The meat is, however, fatty and unsuited to the tastes of most consumers who buy on the formal market.

The majority of Karakul are on scattered freehold farms, particularly in Hardap and Karas. However, the Ministry of
Agriculture, Water & Forestry is now encouraging communal farmers in Erongo and southern Kunene to farm with Karakul since they do well under arid conditions and because pelt prices are rising. In addition, Karakul provide wool suited for carpets and good mutton (although it is also too fatty for the formal market). Compared to other breeds, Karakul production is usually less risky because they require less maintenance and have high levels of resistance to parasites. During very dry periods, the ewes survive because their lambs are slaughtered to shepherd. The preparation of pelts and shearing of wool are fairly skilled and labour intensive tasks.

Goats

Of approximately 2.5 million goats in Namibia (Figure 24), about 40% are Boer goats and 60% belong to indigenous breeds. In addition, there are a handful of Angora and Dairy goats in Namibia. Mohair production from Angora goats has not been profitable, however, and feasibility assessments of goat milk and cheese production from Dairy goats on communal farms in Omaheke have not yielded clear results.

Boer goats are indigenous to Africa. Their value lies in hardiness, high reproductive rate (lambing percentages of 180% are possible as a result of frequent twins), high resistance against external parasites, and their lean, tender meat which has a low cholesterol content. They also prefer to browse on woody plants, thus consuming little grass and hardly competing with cattle that depend more on grass. Some constraints to farming with Boer goats include lambs being badly infected by lice and ticks, low resistance to several diseases, and poor consumer demand and a lack of market development for goat meat in Namibia. However, there is a lucrative export market for live goats to South Africa (see below).

Indigenous goats, as a broad category, cover animals locally called by such names as Caprivi, Kavango, North Central and North Western goats. As the labels reflect, most are kept by small-scale farmers in the northern communal areas, where they form an important component of the Small-scale cereals and livestock farming system (Chapter 4). Genetically and as productive animals, these indigenous breeds have considerable value due to their fertility, high rates of survival and resistance to disease.

**SMALL STOCK PRODUCTION AND MARKETING**

Sheep and goats are sold in several ways: at auctions, directly to local buyers, abattoirs and butchers, and on an ad hoc informal basis. Auction sales have evidently declined in recent years, and many farmers now prefer to sell directly from their farms. This saves transport costs to auction pens and commissions charged by middlemen. Local buyers are often called speculators who buy up animals, keeping them until prices are sufficiently attractive to sell to local abattoirs or to export the animals to South Africa.

Most sheep sold for mutton production are exported either live or as whole carcasses after slaughter at export abattoirs (Figure 26). To add local value through slaughtering and the processing of meat cuts, the government has been discouraging the export of live animals. As a result, the number of sheep carcasses exported rose from an average of about 85,000 per year during the 1990s to 390,941 in 2004, which then made up 44% of all sheep exports (Figure 27). New regulations require that the figure be raised to 85%, so that live exports of sheep are limited to the remaining 15% of production. The average auction price per live sheep was N$304 during 2004, and so the formal market production of 922,860 head was worth some N$285 million.

While the export of mutton carcasses and cuts can be promoted, the same is not true for goats. Most of the 262,972 goats exported in 2004 went to KwaZulu-Natal and the Eastern Cape in South Africa mainly for sale to Muslims, Zulus and Xhosas who buy the animals live. The goats are bled for religious and ritual purposes, goats of various colours being required for different occasions. This market has proved...
Lucrative to communal farmers in southern Namibia, and prices for goats have been higher than those for sheep over the past several years. Exports of goats in 2004 were worth some N$40 million to Namibia.

An average of about 75,000 Karakul pelts was produced each year during the mid-1990s when the market was at its lowest. Annual production has risen to an average of 140,000 pelts over the last few years. The value of pelt sales to Namibia in 2005 amounted to some N$18 million. Fresh pelts are dried by farmers before being sent for sorting and grading to Agra in Windhoek, which then dispatches the pelts for to be auctioned at the Copenhagen Fur Centre in Denmark. Agra also exports Karakul wool, about 95% of a total production of 400,000 kilograms in 2004 being sold in South Africa.
The other three farming systems described in this book cover large expanses of the country and involve considerable numbers of farms and farmers. Much of the production also occurs over extensive periods of time. By contrast, the farming system of this chapter is one of intense, mostly skilled agriculture, each farmer usually specialising on one kind of crop or livestock: ostriches, dairy products, grapes, olives, dates, flowers, pigs, tobacco, paprika, vegetables, fruit, groundnuts, sunflowers, cotton, lucerne, poultry, maize, wheat, and mahangu as a commercial crop. Most of the farm units are small, although some of the commodities are produced on sections of large cattle or sheep farms.

DEVELOPMENT OF THE SYSTEM
Namibia has a long history of producing a variety of foods, usually in small quantities for domestic use. Bare necessity drove early settler farmers to grow virtually all their own food, and the German administration made considerable efforts to encourage the production of cereals, fruit, vegetables, tobacco and dairy products (see page 8). In those years, it was difficult to transport and market fresh produce over any distance or period of time. Bear in mind that the total Namibian population in 1921 was only 229,000. That had grown to 440,000 by 1951, but most people were still dispersed in rural homes and were not part of the market economy. Providing food for sale to a few, scattered and occasional customers was not tenable. The need for people to be self-reliant was always even greater among households in communal areas. Here, the absence of a cash economy, marketing services and infrastructure led to the development of the small-scale, so-called subsistence farming system that still dominates northern Namibia (Chapter 4).

However, much of the need to produce food for self-sufficiency has disappeared in recent years. This is true for both farmers on freehold and communal land. Incomes from livestock sales or from off-farm incomes are now used to buy flour, milk, fruit and vegetables, most of which are imported from South Africa. Instead, the face of Namibian agriculture...
has come to be dominated by commercial beef (Chapter 5) and mutton (Chapter 6) production. The development of this commercial production on freehold farms over the past 50 years was geared largely to the sale of meat to consumers in South African cities.

But things are changing as increasing numbers of farmers have again turned to producing other foods. Why this shift? There are several reasons, the most important of which are a consequence of Namibia’s independent status since 1990. New markets for Namibian exports have opened and been promoted, examples being the export of ostriches and table grapes. The government has promoted an overall policy of self-sufficiency to reduce dependency on imports. Programmes funded by donors have promoted new crops, dates being one example. New irrigation schemes have been proposed under the auspices of the Green Scheme, in which small farms are intended to produce cereals, vegetables and fruit, and perhaps even fish. The National Horticultural Initiative targets fruit and vegetable production by developing marketing systems, providing training, credit and new technology.

Other explanations for the resurgence in interest in high value commodities are due to market forces, in particular opportunities created by growing international trade. Local markets have grown, too. For example, Namibia’s urban population increased from 261,300 people in 1981 to 676,200 in 2001, thereby creating concentrations of consumers who buy more select and processed foods, such as bread, olives, fresh fruit and flowers. Finally, many farmers have realised that new crops could indeed be produced under local farming conditions.

**DISTRIBUTION, EXTENT AND VALUES**

The total number of farmers of *Intensive agriculture* is small, perhaps numbering no more than 500 people. Of roughly 26,000 hectares used by this type of farming, two-thirds are planted with white maize. The remaining areas used for other commodities are small, usually less than 1,000 hectares for each type of crop or livestock.

The majority of farms are clustered in places where there is sufficient water for irrigation: near the Orange, Okavango, Zambezi and Kanene Rivers, below the Naute and Hardap Dams; and above underground aquifers at Stampriet, Hochfeld, the Tsumeb-Otavi-Grootfontein ‘Maize Triangle’, and along the Swakop, Hoanib and Omaruru Rivers. Most dryland maize, sunflowers and cotton is grown in the Maize Triangle because of the presence of relatively fertile luvisol soils (see page 27) and higher rainfall, a consequence of moist air being cooled as it is lifted by the surrounding hills.

To the producers alone, the total value of produce amounted to at least N$358 million in 2004. Most of this came from food sold to Namibian consumers, but a sizeable proportion was sold to international traders and processed into canned foods.

### AREAS USED FOR PRODUCTION, THE VALUE OF PRODUCTION FOR THE FARMER AND TOTAL VOLUME PRODUCED. MOST FIGURES ARE FOR THE YEAR 2004.1

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Area farmed (hectares)</th>
<th>Production value (millions of N$)</th>
<th>Volume produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>White maize</td>
<td>17,192</td>
<td>61.6</td>
<td>25,344 tons</td>
</tr>
<tr>
<td>Yellow maize</td>
<td>1,052</td>
<td>2.2</td>
<td>1,752 tons</td>
</tr>
<tr>
<td>Wheat</td>
<td>1,985</td>
<td>15.1</td>
<td>8,262 tons</td>
</tr>
<tr>
<td>Sunflowers</td>
<td>114</td>
<td>0.3</td>
<td>105 tons</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>226</td>
<td>0.9</td>
<td>242 tons</td>
</tr>
<tr>
<td>Cotton</td>
<td>1,056</td>
<td>4.1</td>
<td>1,955 tons</td>
</tr>
<tr>
<td>Commercial mahangu</td>
<td>437</td>
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<td>170 tons</td>
</tr>
<tr>
<td>Lucerne</td>
<td>360</td>
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<td>Beans</td>
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<tr>
<td>Dates</td>
<td>156</td>
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</tr>
<tr>
<td>Grapes</td>
<td>1,292</td>
<td>86.1</td>
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<tr>
<td>Vegetables</td>
<td>522</td>
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</tr>
<tr>
<td>Fruit</td>
<td>173</td>
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<td>Dairy products</td>
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<td>Pigs</td>
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<td>63</td>
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<td>Chicken eggs</td>
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</tr>
<tr>
<td>Total</td>
<td>about 26,000</td>
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also earned in foreign exchange, for example from exports of dates, table grapes and even maize to Angola. About 50% of all fruit and vegetables grown in Namibia are exported to South Africa. Various reports suggest, as an average approximation, that there are two employees per hectare of very intensive production (for examples, grapes, fruit and vegetables) and one employee per 50 hectares of less intensive production (maize and cotton, for example). Based on those assumptions, about 7,000 people earn their living from this farming system. Using an average household size of 5.7 individuals (as reported in the 2001 Population & Housing Census), the farms support in the region of 40,000 people.

INPUTS
A good supply of water is a necessity for most of the crops and animals within this farming system. Flood irrigation, centre pivot systems or sprinklers are predominantly used to supply water. The majority of irrigation farms are small, usually covering less than 100 hectares. For example, the 34 farm units at the Hardap Irrigation Scheme each cover an average of 67 hectares. In total, some 9,000 hectares are now under irrigation in Namibia, and various estimates suggest that another 40,000 to 50,000 could be irrigated in the country.

Approximately one-third of all irrigated land in Namibia is used for the production of white maize. The irrigated areas made up an average of 13% of all land planted with white maize between 1995 and 2004, but contributed 49% of all white maize production. The difference in percentages was due to annual yields from irrigation (6-8 tons/hectare) being several times higher than those on dryland or rain-fed fields (1-2 tons/hectare). The effects of irrigation are two-fold: in supplying more water, and in doing so regularly, especially during the most critical stages of growth. The second aspect is the most important because the majority of losses in potential yield are due to extended periods of dry, hot weather. Indeed, yields of all rain-fed crops would be much greater if Namibia’s rain were more predictable and reliable.

Together with water and electricity to pump it, other costly inputs are fertilizers, agricultural machinery, fuel, pesticides, seed, packaging and transport to markets. The proportions that these make up of total production costs obviously vary from crop to crop and from one farm to another (Figure 27). Labour inputs are likewise substantial; these add to the costs but also provide employment. An important point is that all the costly inputs are vital not only for production, but also in ensuring that the produce is of high quality. Many of the commodities target discerning customers, and often compete with similar foods produced by farmers in other countries.

A rather high level of specialist knowledge concerning production and marketing is often required to be a successful farmer. However, relevant information and experience is not always available, particularly for Namibian conditions and for newly introduced crops. And because there are few farmers, there isn’t the same pool of collective expertise that has built up over the years among the many beef and mutton producers.

PRODUCTS
Some of the many crops and livestock are farmed on a very limited scale, while other products contribute significantly to Namibia’s food supplies and economy, as described below.
Accounts are also given for a sample of less significant crops to illustrate some of the potentials and difficulties in producing rather specialized commodities.

**Dairy produce**

At the time of writing, 21 farmers produce milk on a commercial basis. Input costs are high, especially those paid for lucerne and processed feeds that are required for the cows. Net income to the farmer amounts to less than 10% of the retail cost of a litre of milk. Dairies thus need between 100 and 200 lactating cows, each producing 10 to 20 litres per day to be profitable. In 2004, 47% of all commercially produced milk was sold as fresh milk or milk with an extended shelf life. The rest was processed into UHT milk, cheeses and butter. Current production levels provide for approximately half of Namibia’s needs for dairy products.

**Dates**

Since the government began to support date production at irrigation schemes along the Orange River and at the Naute Dam in 1993, Namibia has become regarded as southern Africa’s leading date producer. A total of some 156 hectares of dates has been planted, from which 1,800 tons of fruit were produced in 2004 at a total production value of N$34 million. Dates can only be grown where their considerable water requirements can be met, which amount to between 22,000 and 25,000 cubic metres per hectare each year. Yields vary between 70 and 150 kilograms per tree, depending on the cultivar. While all dates have thus far been grown on large-scale irrigation schemes, there is potential for the fruit to be produced by smaller scale farmers.

**Grapes**

The majority of Namibia’s grapes are grown on irrigation schemes along the Orange River, particularly at Aussenkehr, and to a lesser degree below the Naute and Hardap Dams. Most production is exported as table grapes to Europe, where they can be sold earlier than those from other exporters to Europe. That comparative advantage has enabled the Namibian grape industry to profit and grow rapidly. For example, the producer value of grapes rose from N$21.8 million in 1995 to N$86.1 million in 2004. A new Green Scheme irrigation project, known as Tandjeskoppe near Noodoeiver, will increase grape production substantially and add to the almost 1,300 hectares now planted with grapes. At least two vineyards produce wine on a limited scale.

**Mahangu**

While as many as 150,000 households grow mahangu for domestic use (see page 37), it is only in recent years that it has started to develop into a commercial crop. Considerable efforts have been made to further this development, notably by improving marketing channels, storage and milling facilities, and urging that mahangu be served in government institutions, such as hostels and prisons. Mahangu has also been declared a ‘controlled crop’ to protect it from competition from imported cereals, and to guarantee producers that they will be paid prices equivalent to those for white maize (the other controlled crops are white maize, wheat, vegetables and fruit). The number of commercial mahangu producers remains small, however, at estimated 50-100 growers. Most of their farms are in southwest Kavango and Oshikoto.

**Oriental tobacco**

Many areas in Namibia are well suited to this crop since it can be grown in low rainfall areas, has high tolerance to drought conditions, has a short growing season of between 60 and 120 days, and does well in soils with a high sand content. The crop is now grown by eight farmers who obtain yields of 700-950 kilograms per hectare and incomes of N$7,000-N$11,000 per hectare. These are several times higher than earnings from maize, and the irrigated water requirements of oriental tobacco are five times lower than those of maize. Oriental tobacco is exported for use as an aromatic additive to other tobaccos. One farm in Capriv loses small quantities of Virginia tobacco.

**Ostriches**

There were 11,700 ostriches being farmed in 2005, mainly in Hardap and Karas, a great reduction from over 52,000 birds in 1998. The decline in production has largely been for reasons of poor economic returns, especially due to the high costs of imported feed and low export prices. The specially built ostrich slaughtering facility at Kettmanshoop has been converted into a mutton abattoir. Namibia also exported large numbers of live ostriches and ostrich eggs during the early 1990s; for example over 60,000 eggs were sold in 1994. This number rapidly dwindled until exports ended in 2000. Foreign farmers eager to establish their own flocks paid up to N$300 per egg and several thousand N$ per bird.

**Vegetables**

A variety of vegetable crops are grown commercially using intense production methods, usually under irrigation. Onions,
cabbage, tomatoes and potatoes predominate, while significant quantities of carrots, butternut, green maize, pumpkins, asparagus and beetroot are also grown. Marketing is the greatest difficulty faced by local farmers, particularly as a result of stiff competition from South African suppliers who are generally better at guaranteeing to retailers that they will regularly deliver the range of high quality vegetables needed. Such requirements of volume, variety and reliability are difficult to meet for Namibian vegetable farmers, each of whom might have just one or two ripe crops at any one time. One goal of the new National Horticultural Initiative is to help local growers meet these requirements by coordinating and streamlining the delivery of vegetables to the bigger retailers. The Namibia Horticulture Market Share Promotion system limits imports by requiring that wholesalers buy at least 12% of their vegetable (and fruit) stocks from Namibian farmers.

Wheat
All Namibian wheat is grown in winter under irrigation. Planting normally takes place between May and July, while harvesting is in November and December. Yields average between 5 and 6 tons per hectare. The crop does best in the cooler southern areas, and so much of the country’s production is at the Naute and Hardap Dams, while smaller areas are cultivated at agricultural projects in Kavango (Shadikongoro, Musese, Shitemo and Vungu Vungu). Total annual production over the last 10 years has averaged 5,700 tons, which provided 10% of all the wheat requirements of Namibia. The remaining 90% was imported.

White maize
Areas planted with white maize have almost doubled from 9,000 hectares in 1995 to 17,192 hectares in 2004, when 220 farmers were growing white maize commercially. Most dryland maize is grown in the Tsumeb-Otavi-Grootfontein ‘Maize Triangle’, and elsewhere in Otjozondjupa and Omacheke. Dryland maize production is risky. On average, crops fail in three of every eight years as a result of inadequate rain, farmers break even in two years, and make a profit in the other three years. Irrigated maize is produced along the Orange and Kavango Rivers, at Etunda close to the Kunene River, at the Hardap and Naute Dams, and by using underground water reserves at Stampriet and in the Maize Triangle. Namibian producers are protected by government regulations from competition by cheaper imports. On average, 24,270 tons were marketed commercially over the past 10 years, and another 81,800 tons were imported each year.

The following brief notes describe the many other crops and livestock produced on a limited, but intensive scale:

6. **Beans**: several varieties of beans are grown for cattle feed.
6. **Cacti**: many farms have small fields for fodder. There is potential for fruit and fruit products from prickly pears, such as jams, jellies, liquid sweeteners, juices and alcohol.
6. **Cotton**: average annual production over the last 10 years has been 3,076 tons. Yields average 1.5 tons per hectare.
6. **Flowers**: Several growers supply fresh flowers, mainly to buyers in Windhoek and Swakopmund. The flowers are grown in climate-controlled tunnels.
6. **Fruit**: mainly melons, citrus and mangos are produced on irrigated plots across the country. Total production in 2003 was 3,445 tons, and at least another 5,200 tons of fruit was imported for commercial consumption.
6. **Groundnuts**: grown on dryland fields and irrigation, largely for export to South Africa and to supply a peanut butter factory in Grootfontein.
6. **Lucerne**: produced throughout the year for sale to dairy farmers. Only grown under irrigation, between 40 and 50% of production being grown at Hardap.
6. **Olives**: about 17 farmers recently began to produce table olives and olive oil, mainly for the Namibian market.
6. **Paprika**: grown on at least four farms, mostly for export to South Africa where it is used for food colouring.
6. **Pigs**: local production grew from less than 649 animals in 2002 to about 28,000 weaners in 2005, when there were 25 pig farmers in Namibia.
6. **Poultry**: about 41 million eggs worth over NS14.3 million were produced in 2004. Almost all chickens for consumption are imported.
6. **Sunflowers**: an average of 224 tons was produced annually between 1995 and 2004. The only sunflower oil processor in Namibia has now closed.
6. **Yellow maize**: an average of 1,500 hectares was planted annually between 1995 and 2004 for animal feed.
Indigenous wildlife and plants have always been valuable resources for Nambians, particularly for rural people living in subsistence economies based on pastoralism and hunting and gathering. Most of the resources are used in the form of material commodities, such as fuel wood, wild fruits and thatching grass, or to obtain indirect benefits, for instance from livestock grazing and browsing. These are traditional uses. What is new – and the focus of this chapter – is the use and management of these resources to gain direct commercial benefits.

Enterprises within the production system differ from farming in several ways, but most notably that wild animals and plants are used rather than domesticated ones. The Natural resource production system also does not aim to produce food, which is the function of most Namibian agriculture. Another difference lies in the fact that the value of the wild plants and animals usually depends on them being in their natural habitats, rather than within a fenced camp or field. This is because tourism is the predominant source of income, and tourists much prefer to see indigenous resources in pristine, scenic environments.

But there are also links to farming. The two activities often occur on the same land and the same people frequently work in both systems. The ways in which the two enterprises manage their resources are often similar. And, as with farming, we can ask the same questions of the Natural resource production system: what commodities are produced, how are they produced and sold, who are the producers, who and where are the consumers, and what is the value of the produce? The rest of the chapter attempts to answer those questions. Before doing so, however, some further introductory comments.

A further similarity with agriculture is that farmers have ownership rights over their land and stock. However, it is only recently that rights over wildlife and indigenous plants have been given to private landowners or communities. This is one reason why the production system is so new. Commercial rights over wildlife were first given to freehold farmers in 1967, while communities in communal areas got the same rights much later when policies were adopted to promote
community-based natural resource management (CBNRM). The legislation to provide commercial rights over natural resources on communal land was passed in 1996 and 2001. Another effect of these policy changes was to move wildlife and plants into the realm of the private sector, which then drove the production system’s rapid growth.

A second reason for this being a new system is that its revenues depend very heavily on the tourism industry, which has recently boomed throughout much of the world. For example, the number of visitors to Namibia increased almost five times between 1990 and 2005 (Figure 28). The highest revenues come from the many relatively wealthy visitors, particularly from Europe and South Africa. Although much has been done to develop the supply of attractions for tourists, especially through the development of services, Namibia will need to continually promote demands for tourism if it is to remain competitive.

There is often a conflict of interests between farmers and those who benefit from Natural resource production. For example, agriculture destroys indigenous plants and animals through the clearing of land, and wild animals may damage crops and livestock. However, farming and incomes from wildlife and plants often complement each other, particularly in environments where agricultural productivity is low. It is here that the same farmlands are used for livestock and tourism, game meat production or trophy hunting, for instance. Moreover, it is largely farmers who have adopted this production system, which, in turn, has benefited from the use of adapted farm management and marketing practices. As examples, valuable wild animals and plants are now being bred, selected breeding stock is being traded, and pastures are managed to optimise conditions for wildlife.

**COMMODITIES**

Namibia is richly endowed with large mammals – generally called wildlife – and they form the backbone of the production system. As shown in the table on the next page, there are at least two million of these animals, a number roughly similar to those for cattle, sheep and goats in the country (see Figure 3 on page 11). It is also noteworthy that almost 90% of wildlife is on freehold farms.

While wildlife dominates the production system, a growing number of plants are being found to have commercial value. Products from the following species are now being marketed: marula, blue sourplum, monkey-orange, devil’s claw, Kalahari melon and !Nara. Most of the products are bought by relatively wealthy people interested in alternative or novel medicines, oils and cosmetics. The volumes of some products are significant. For example, about 600 tons of the dried tubers of devil’s claw and 15 tons of dried !Nara seeds have been exported annually in recent years. The potential production of oils, liquors, fruit and juices, jams, relishes, medicines and cosmetics from at least another 30 species of plants is being investigated. Timber for furniture is no longer harvested because Namibia’s stocks of kiaat – the most valuable species – were severely depleted by logging between the 1950s and 1980s.

There is also a sizeable craft industry. Most items are produced in the northern communal areas as carvings from the wood of kiaat trees or baskets woven from palm leaves and grass. About 100,000 cubic metres of firewood is sold each
year, mainly to consumers in urban areas, while approximately 48,000 cubic metres of charcoal is sold locally and as exports to South Africa and Europe. Wild silk is produced from the cocoons of a moth that lives off acacia trees. The silk now sells for about N$1,000 per kilogram.

PRODUCTION

Wildlife is marketed in four main ways: through tourism, trophy hunting and as live game and slaughter products (venison, skins and horns). The first of these – tourism – is the most important in giving value to the production system since so many visitors are obviously attracted by Namibia’s abundant wildlife. Many other attractions also draw tourists, such as traditional cultures, historical sites, birds, fish, pristine desert landscapes and other geological features. In addition, tourism is enhanced – indeed made possible – by the fact that visitors feel safe, and can travel on good roads, spend the night in excellent accommodation, and see wildlife against a backdrop of spectacular scenery.

While it is probably impossible to measure the exact degree to which wildlife attracts tourists, it is reasonable to assume that everyone visiting a national park or game reserve does so to see these animals. A minimum of 210,000 visitors or maximum of 382,000 people were recorded as entering parks and reserves in 2003. The difference between the two estimates is due to the fact that it is not known how many people were counted more than once because they visited more than one park in that year. The numbers are nevertheless substantial.

Even though national parks are favourite attractions, the great majority of accommodation for tourists is on freehold farms (Figure 29). Most of the guest farms offer attractions and activities related to wildlife, such as game drives and walks, and game viewing at waterholes. In addition, some farm owners have purchased game to boost the numbers and diversity of wildlife they have on offer. These include several species that did not originally occur in Namibia or in areas where the farms are located. Examples are blesbok, black wildebeest, sable and roan antelope and waterbuck.

As with tourism, the value of trade in wildlife has increased greatly. Animals are sold live in three ways: in direct sales from game dealers to farmers (39%), at auctions (16%),

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### ESTIMATES OF THE NUMBER OF LARGE MAMMALS IN NAMIBIA

<table>
<thead>
<tr>
<th>Species</th>
<th>Protected areas</th>
<th>Communal areas</th>
<th>Freehold farms</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Springbok</td>
<td>18,932</td>
<td>91,070</td>
<td>621,561</td>
<td>731,563</td>
</tr>
<tr>
<td>Oryx</td>
<td>8,265</td>
<td>30,054</td>
<td>350,092</td>
<td>388,411</td>
</tr>
<tr>
<td>Kudu</td>
<td>2,497</td>
<td>3,595</td>
<td>345,801</td>
<td>351,893</td>
</tr>
<tr>
<td>Warthog</td>
<td>209</td>
<td>40</td>
<td>173,866</td>
<td>174,115</td>
</tr>
<tr>
<td>Hartebeest</td>
<td>1,583</td>
<td>700</td>
<td>122,805</td>
<td>125,088</td>
</tr>
<tr>
<td>Mountain zebra</td>
<td>3,974</td>
<td>13,242</td>
<td>55,520</td>
<td>72,736</td>
</tr>
<tr>
<td>Ostrich</td>
<td>3,787</td>
<td>5,550</td>
<td>36,336</td>
<td>45,673</td>
</tr>
<tr>
<td>Eland</td>
<td>2,084</td>
<td>389</td>
<td>34,743</td>
<td>37,216</td>
</tr>
<tr>
<td>Burchell’s zebra</td>
<td>18,098</td>
<td>20</td>
<td>7,303</td>
<td>25,421</td>
</tr>
<tr>
<td>Blue wildebeest</td>
<td>5,199</td>
<td>470</td>
<td>16,623</td>
<td>22,292</td>
</tr>
<tr>
<td>Common impala</td>
<td>77</td>
<td>385</td>
<td>14,980</td>
<td>15,442</td>
</tr>
<tr>
<td>Giraffe</td>
<td>3,491</td>
<td>1155</td>
<td>5,769</td>
<td>10,415</td>
</tr>
<tr>
<td>Elephant</td>
<td>8,993</td>
<td>964</td>
<td>0</td>
<td>9,957</td>
</tr>
<tr>
<td>Leopard</td>
<td>2,000</td>
<td>2,000</td>
<td>4,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Cheetah</td>
<td>765</td>
<td>765</td>
<td>2,970</td>
<td>4,500</td>
</tr>
<tr>
<td>Waterbuck</td>
<td>0</td>
<td>0</td>
<td>4,475</td>
<td>4,475</td>
</tr>
<tr>
<td>Blackfaced impala</td>
<td>1,500</td>
<td>0</td>
<td>1,870</td>
<td>3,370</td>
</tr>
<tr>
<td>Hippopotamus</td>
<td>1,262</td>
<td>300</td>
<td>0</td>
<td>1,562</td>
</tr>
<tr>
<td>Buffalo</td>
<td>1,275</td>
<td>90</td>
<td>0</td>
<td>1,365</td>
</tr>
<tr>
<td>Sable antelope</td>
<td>316</td>
<td>15</td>
<td>902</td>
<td>1,233</td>
</tr>
<tr>
<td>Roan antelope</td>
<td>560</td>
<td>95</td>
<td>435</td>
<td>1,090</td>
</tr>
<tr>
<td>Others</td>
<td>1,536</td>
<td>432</td>
<td>655</td>
<td>2,623</td>
</tr>
<tr>
<td>TOTAL</td>
<td>86,403</td>
<td>151,331</td>
<td>1,000,706</td>
<td>2,038,440</td>
</tr>
</tbody>
</table>

| Percent            | 4%             | 8%             | 88%            | 100%   |
and as exports (46%) which mainly go to South Africa. The percentages are those of 12,376 animals sold in 2001. Springbok, oryx, hartebeest and giraffe were exported in the greatest numbers.

The number of trophy hunters increased from 1,918 in 1994 to 5,363 in 2004, while the number of animals hunted more than tripled over the same period from 6,365 to 22,462 animals (Figure 28). Most of the hunters in 2004 came from Germany (35%), the USA (21%), Austria (8%) and France (7%). Oryx, kudu, warthog, springbok and hartebeest made up 65% of the animals hunted in 2004, most of which were hunted on freehold farms. Other more valuable trophies, such as elephant, lion, buffalo and hippo, were hunted in hunting concessions in communal areas and parks and reserves.

Namibian butchers buy game carcasses from farmers, process the meat and sell it as venison. For example, two studies showed that freehold farmers in the central regions of Namibia annually harvest about 3,500 to 3,600 kilograms of live weight per 10,000 hectares of farm land. Oryx, kudu, springbok and hartebeest are the most favoured kinds of venison. Springbok are sometimes harvested in bulk during night culls in southeastern Namibia. A total of 51,081 skins and 16,141 pairs of horns were sold in 2001. Most kudu hides are exported to producers of horse riding boots in Greece, while oryx hides are sold to Hong Kong where they are made into protective clothing.

Much of the production described above is concentrated in national parks or reserves and on freehold farms. In 2005, a total of 667 farms covering 35,300 square kilometres were registered for trophy hunting, and there were at least 400 lodges on freehold farms. Some farms have also been converted into private game reserves. There are, however, several other land management areas that have increasingly become part of this production system. The most notable of these are conservancies in communal areas. At the end of 2005, 46 such conservancies had been established, covering 105,148 square kilometres, or about 35% of all communal land. Indeed, the promotion of the Natural resource production system has been a prime motive for the formation of conservancies, especially in bringing new incomes from wildlife to residents on communal land. For example, there are now 11 agreements between conservancies and tourist and lodges and camps, and 20 joint ventures with professional trophy hunters. The incomes are mainly derived from agreements to share profits generated by tourism and

Figure 30. The distribution of national parks and game reserves, accommodation aimed at tourists, hunting farms, communal and freehold conservancies, private game reserves and community forests.
hunting, from jobs created by the private sector operators, and from the harvesting of game.

Wildlife and tourism has been the main focus in conservancies, whereas emphasis has been placed on benefits from plant resources in community forests. As of the beginning of 2006, 13 community forests had been established, covering almost 3,950 square kilometres in which over 36,000 people live. Some of the community forests and communal conservancies overlap geographically. A total of 1,008 farms are included in 25 freehold conservancies that stretch over 43,259 square kilometres. The main purpose of the freehold conservancies is for farmers to co-operate in managing and protecting their wildlife resources.

Although studies to estimate the total value of this production system have yet to be done, the revenue earned is substantial, as shown in the table. These figures cover only commercial sales, and would be much higher if the consumptive values of domestic uses were included, for example the value of firewood used in rural homes. Figures for the value of craft, thatching grass, game meat, hides and horns are also not available.

Revenues have also grown. The value of trophy hunting grew at an annual rate of 18% between 1980 and 2001, while tourism incomes grew at approximately the rate reflected by the increasing number of visitors shown in Figure 28. Income from tourism to community members of communal area conservancies rose from N$401,700 in 1999 to N$7,644,000 in 2005, while their income from trophy hunting increased from N$448,500 to N$2,663,000 over the same period.1

**ESTIMATES OF THE GROSS EXPENDITURE ON NATURAL RESOURCES AS COMMERCIAL PRODUCTS.**

<table>
<thead>
<tr>
<th>Commodity or activity (year of estimate)</th>
<th>Annual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trophy hunting (2005)</td>
<td>N$316 million</td>
</tr>
<tr>
<td>Wildlife viewing (2005)</td>
<td>N$2,700 million</td>
</tr>
<tr>
<td>Charcoal (2004)</td>
<td>N$75 - N$100 million</td>
</tr>
<tr>
<td>Select plant products (various years)</td>
<td>N$21,585,000</td>
</tr>
<tr>
<td>Approximate total</td>
<td>N$3,200 million</td>
</tr>
</tbody>
</table>

*Marula, blue sourplum, monkey-orange, devil’s claw, Kalahari melons, !Nara

Most lodges and camps for tourists have been established by the owners of freehold farms in central Namibia. Guests at the farms enjoy excellent accommodation, food and wildlife viewing.
The earlier chapters focused largely on the characteristics of different farming systems and the social and physical environment in which they are practised. That, indeed, was the primary purpose of the book commissioned by the Namibia National Farmers’ Union (NNFU). However, the Union also wished to explore prospects for development, particularly in how farmers might improve their production and incomes within a farming system, and how farmers might shift from one system to another farming system. It is easy to ask these questions. But finding answers that can be implemented is much more challenging, especially for an enterprise as big as farming. About 27% of all Namibian households depend largely on incomes from agriculture, and approximately 78% of the land surface can be regarded to a greater or lesser degree as farmland (see page 13). These figures give an idea of the size of the enterprise, but the development of the agricultural sector is further complicated by a range of political, economic and social factors. In offering some ideas on opportunities and challenges, the pages ahead follow the order of the preceding chapters. The broad characteristics of the farming and production systems are summarized as follows:

THE HUMAN ENVIRONMENT

Two rather different approaches characterize agriculture in Namibia. On the one hand, policies and programmes are directed towards making agriculture economically productive. Farmland is to be used to produce surpluses which are sold for revenue that benefits the farmer and country as a whole. The approach is best implemented by Intensive agriculture production and by those individual farmers in other systems who profit substantially from their farms and produce. The main point about the strategy is that agriculture generates wealth for the growth and development of society. It thus goes beyond providing for the needs of the individual farmer.

The alternative approach focuses on agriculture as a tool for social policy. Emphasis is often placed more on access to land and food, rather than the productive use of land. Aspects that are implicitly or explicitly seen as important include the right to farm land, traditional farming values, and the idea that every Namibian is a farmer, or at least a potential one. Cattle are deemed to have great value, often for reasons of status or investment. Policies and programmes that build on this approach include efforts to protect local agriculture, and

<table>
<thead>
<tr>
<th>Major Features of Namibian Farming Systems</th>
<th>Small-scale cereals and livestock</th>
<th>Cattle ranching</th>
<th>Small stock</th>
<th>Intensive agriculture</th>
<th>Natural resource production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land tenure</td>
<td>Usage rights</td>
<td>Mainly exclusive ownership</td>
<td>Mainly exclusive ownership</td>
<td>Exclusive ownership and some land leases</td>
<td>Exclusive ownership or usage rights</td>
</tr>
<tr>
<td>Inputs</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>Use of production</td>
<td>Domestic consumption</td>
<td>Commercial sales</td>
<td>Commercial sales</td>
<td>Commercial sales</td>
<td>Commercial sales</td>
</tr>
<tr>
<td>Predominant markets</td>
<td>Local</td>
<td>Mainly exports</td>
<td>Mainly exports</td>
<td>Mainly Namibian</td>
<td>Mainly exports</td>
</tr>
</tbody>
</table>
to promote food self-sufficiency, rural development and social harmony through the distribution of farmland.

Which of the two strategies should Namibian agriculture follow, or what balance should be achieved between them? It is beyond the scope of this chapter to explore the many answers to these questions, but several aspects deserve comment. First, decision-makers must recognize the clear dichotomy between the approaches, and be aware of consequences of following one approach or the other. Second, the production of profitable surpluses is a prerequisite for economic development (see page 7). Third, comparative advantages must be sought and exploited if Namibian farmers are to compete with international producers. Fourth, is the need to evaluate how agriculture can most effectively help solve the urgent problem of poverty, both nationally and within individual homes. Domestic food production and self-sufficiency may not always be adequate or most effective in reducing poverty, especially if poor households remain short of land and secure land tenure (see below). Finally, it would be useful to close the gap between the approaches, for example by encouraging closer links between farming and secondary enterprises that add value through processing, packaging and marketing. For example, more farmers could have financial interests in these secondary aspects of food production, and more businesses could invest in primary agriculture.

The emergence of a new group of previously disadvantaged people as large-scale farmers is one of the most striking changes to the complexion of agriculture in Namibia. These include people who have purchased farms (often through the Affirmative Action Loan Scheme – see page 19), and yet others who have been settled on farms acquired by the government, or who have acquired large farms in communal areas (see page 14). In total, there are some 2,000 such ‘emerging farmers’ who effectively own at least 750,000 hectares, or 12% of Namibia’s agricultural land. While much of this area has been made available in the name of land redistribution, the challenge now is to promote the effective use of the farms for production.

The great majority of the farms belonging to the emerging farmers are in areas where livestock farming predominates. Most of the farms are also comparatively large. This is an important asset if the farms are to be economically useful in producing beef, mutton or goats under conditions where extensive grazing is required. Quite simply: the larger the farm, the greater its productivity, viability and profitability. Conversely: the more people given land, the smaller the farm units will have to be, and the lower the economic returns from agriculture. Decision makers will again have to achieve a balance between the need for access to land and the use of farmland for growth and development. They will have to decide if Namibia needs more farmers, or better farmers.

The development of markets is one of the greatest needs for improving agriculture in communal areas. Two aspects seem most important. The first is to develop markets and give farmers greater access to them, for example, by shifting the veterinary cordon fence so that more livestock products can be exported (see below). A second requirement is to ensure that appropriate incentives for marketing are in place. Too often it is assumed that all rural households in communal areas are poor and eager to sell any surplus. However, the majority of families have non-farm incomes that greatly exceed the value of their farming activities (see page 39). Logically, greater time and effort will be spent in pursuit of more lucrative income sources than on producing surpluses that yield lower returns. As a consequence, really profitable incentives have to be present if these households are to market farm products.

THE NATURAL ENVIRONMENT

Although Namibian pride may not allow it, it has to be admitted that environmental conditions are generally poorly suited to agricultural production, at least compared to other countries. The main constraints are low, variable rainfall and soils that are low in nutrients and the capacity to retain water. This is not at admission of failure, but of the challenging reality, and it is necessary because mistaken optimism often leads to expectations that agriculture will be at the forefront in driving development and getting rid of poverty.

This realism is also not cause for despair, since measures can indeed be taken to enhance production. Two aspects deserve particular mention. The first is for soils to be managed more effectively. It is often said that Namibian soils are being mined because nutrients are removed from the ground faster than they can be replaced, which causes progressive losses of production. Farmers therefore need to pay greater attention to the conservation of soil structure and nutrients, or their replacement with compost, manure, crop residues or inorganic fertilizers. Communities of tiny animals (soil micro-fauna) that break down organic material into nutrients should be preserved, for example by avoiding applications of harmful chemicals. Irrigation practices that cause concentrations of salt in the soil to increase should be avoided.

Bush encroachment is the second environmental problem that needs addressing. Grass biomass has been reduced
several times on the most heavily encroached cattle ranches (see page 31). Since productivity is very largely dependant on the quantity and quality of pasture, it is to be expected that carrying capacity, beef production and economic returns could increase several times if encroachment was eliminated. While all methods of removing bush are now expensive, Namibia should continue to seek policies and practices to rid itself of the problem and to enhance the value of pastures.

SMALL-SCALE CEREALS AND LIVESTOCK

From a development point of view, this farming system deserves high priority. It includes many more households than any other system, and the conditions faced by farmers are extremely difficult. Most farms are tiny, and few areas with reasonably fertile soils remain available. The system of communal tenure means that farmers lack secure rights over farmland. Labour resources are limited as growing numbers of physically and economically active people seek cash incomes elsewhere. Moreover, occasional surpluses of farm products never provide profits that are large enough to increase farm sizes and assets.

What can be done to improve farming under these tough conditions? A first important step is to recognize that household economies vary much more than are suggested by the somewhat uniform rural settings of the farmsteads. These settings further conceal the fact that the majority of households have several incomes, some of which are substantial, at least in relation to the value of farm produce (see page 16). Social conditions vary too. For example, many households are headed by women, the number of household members differs greatly from family to family, and some families receive much greater support from relatives working elsewhere than others. The admission of all this diversity leads to a second requirement. This is the recognition that needs differ greatly from one family to another. Priorities also vary. Certain development programmes will therefore be appropriate to the concerns of some farmers, but not to others. Similarly, many households are in desperate need of assistance to boost agricultural production, while others require no help.

There are perhaps three broad groups of farming families: (a) those that are very poor and depend largely on farm produce for their livelihoods; (b) households that have significant cash incomes from other sources but for which farm produce makes life easier, and (c) those that are so wealthy that they derive all their needs from sources that have nothing to do with agriculture.

Arguably, most effort should be focused on the first group in which there may be between 40,000 and 50,000 households in the northern communal areas (see page 39). Their production of food should increase and become more reliable, for example
through improving soil fertility, using labour-saving technology and employing measures to improve the health of their livestock. And these are the people that most need to benefit from new or expanded marketing opportunities. Most crucially, they should be given secure tenure over their land. Leasehold rights over 99 years would be a good beginning, although freehold titles would be preferable. These rights – which every Namibian deserves – would allow greater access to credit and would enhance motivation to invest in farm land. They would also be pivotal in allowing the poorest communities to develop capital assets. Currently, if a family living on communal land decided to establish a new farm or home, they would have no capital assets that could be transferred to their new venture. By contrast, it is taken for granted that freehold owners of farms and – for that matter – urban properties can accumulate and transfer capital assets.

**CATTLE RANCHING**

As a long established farming system, beef production on freehold farms appears reasonably successful. Production could be increased greatly by reducing bush encroachment (see above), but the greatest challenge for the beef industry lies in finding and maintaining secure markets. Almost all exports now go to only three market destinations: South Africa (81%), United Kingdom (14%) and Norway (2.5% of all exports by volume). Since the international beef trade is highly competitive – and subject to the vagaries of currency exchange rates and strict quality controls – it is important that Namibia develops additional markets. One aspect to be considered is an extension of the concept of Farm Assured Namibian Meat Scheme (FAN Meat, see page 48). For example, beef could be marketed or branded as having higher value because it was produced without feed additives under free-ranging conditions in pristine savannas that are virtually free of pollution.
Compared to freehold beef ranching, beef production by the large group of emerging farmers (see above) is a quite new enterprise. Many of the farmers acquired their ranches only recently and thus lack the experience of older, freehold farmers. Several programmes aim at supporting emerging farmers, including a joint Namibia Agriculture (NAU)/Namibia National Farmers Union (NNFU) ‘Emerging Farmer Support Programme’, and extension services provided by the Ministry of Agriculture, Water & Forestry. Support to emerging farmers is also provided more locally by different farmers associations. This signals the valuable building of new multi-racial farming communities where neighbouring farmers help each with information, advice and material support. All these efforts should help promote the need for the new ranches to be run as businesses which will make important contributions to Namibia’s beef industry.

The veterinary cordon fence is usually noted as the biggest obstacle to the marketing of cattle in the northern communal areas. The removal of the barrier could open up markets for the sale of perhaps another 100,000 to 150,000 cattle per year (and several hundred thousand goats). Most of the cattle could initially be sold as weaners until management practices improve to the point that large numbers of good quality carcasses can be produced (see page 48). However, removing the fence is much easier said than done. For a start, it could not be eliminated immediately since cattle throughout Namibia would then be exposed to potentially devastating infections from across the Angolan border. This leaves the option of moving the fence northwards, perhaps to create a barrier between Namibia and Angola. But that would also be difficult in practical terms, especially along the Okavango River. Given these constraints, most people accept that the fence be moved in phases along with the introduction of extensive vaccination programmes in southern Angola. A first phase might entail moving the fence so as to incorporate northern Kunene and parts of Oshikoto (around the Mangetti Block) into the surveillance disease-free southern areas of the country (see page 20). Other parts of the northern communal areas could follow, but each newly-opened area would have to be carefully monitored until risks of infection could be declared as eliminated.

SMALL STOCK FARMING
A farmer needs a dependable market, preferably one offering reliable returns. The price paid to a farmer is fixed once an animal leaves the farm gate or auction pen. It thus matters little to him or her if the animal is later exported live, as a carcass or as processed cuts. But these different kinds of exports matter much to the Namibian economy. The more an animal is processed locally, the higher the price paid as it leaves the border, and the more Namibian jobs will be available. All this sounds reasonable, but the interests of the farmer and national economy may not always agree. For example, measures to boost local processing may prevent farmers from selling at reliable prices if they are can’t export live animals for good prices to South Africa. Worse still, animals may have to be fed for months until local processors have the capacity to buy them at lower, perhaps preset prices.

There is thus a tension between small-stock farmers and the government as it gradually increases the requirement for local processing (see page 56). Finding an ideal balance between the two interests will be difficult. What will be important is that all stakeholders continually evaluate their positions in an effort to find an appropriate balance. And the balance will probably have to change, depending on rainfall, slaughtering capacity, market demands, and foreign exchange rates, for example. The same considerations will apply if, or when, the government begins to limit the export of weaners, goats and any other livestock products.

A good part of Namibia’s economy was based on exports of Karakul pelts during the 1950s, 1960s and 1970s. There are indications that demands could again increase significantly. It is therefore important that Namibia help stimulate demand by cooperating with other producers in Uzbekistan, Turkmenistan, Kazakhstan, Tadzhikistan, Kyrgyzstan and Afghanistan. Namibia should also be prepared to respond to higher demand, and to penetrate new markets in China and Russia. However, there is also a need to remember that this market is subject to the whims of fashions.

Since these hardy sheep do well in the more arid regions of Namibia, there is also scope for promoting Karakul farming in the communal areas of Karas, Hardap, Erongo and Kunene. The great majority of farm income in those communal areas now comes from the sale of goats. This is fine as long as the demand for live goats remains high in South Africa, but the addition of Karakul production could increase earnings. Incomes would be diversified as well, which would be important if demands for goats drop.

It is indeed surprising that Namibia appears to have done rather little to promote goat farming, at least compared to the substantial support offered to beef and mutton production. There are more goats in Namibia than cattle or sheep, and much of the country is well suited to goat farming. This is...
true for most communal land and for freehold farms that are badly encroached with invasive bush. While consumer tastes now mean that relatively few people buy goat meat, efforts should be made to change those tastes. For example, aggressive advertising and marketing programmes could emphasize the health value of goat meat as a result of its low content of saturated fat and cholesterol (similar promotions have been run for fish). Goats are also produced under healthy, natural conditions, and their meat – especially that of younger animals – is extremely tasty.

INTENSIVE AGRICULTURE

The previous three farming systems – Small-scale cereals and livestock, Cattle ranching and Small stock – have all been practiced over decades, if not longer. By contrast, Intensive agriculture and Natural resource production are systems that have developed and grown rapidly since independence in 1990. In addition, these two systems generate high returns (see below), and cause less environmental degradation than the three more traditional farming systems.

There is thus good reason for Namibia to seek and promote more commodities that can be produced intensively on small areas of land. Innovative methods need to be sought for production and marketing. Ways should further be sought of involving small-scale farmers in communal areas in the production of high value crops. These, indeed, are the partial objectives of the Green Scheme and National Horticultural Initiative. However, there are doubtless more ways of encouraging small-scale farmers away from traditional low input–low output farming into high input–high output Intensive agriculture.

Maize production is now protected against competition from cheaper cereal imports, largely as a consequence of policies that Namibia should be self-sufficient in its food needs. There are three reasons for reconsidering those policies, especially as they relate to maize. Firstly, Namibian consumers pay more for maize meal than if cheaper imports were allowed. These higher costs are especially hard on most poor people for whom maize meal is a staple food. Second, if current irrigation schemes were charged the full capital costs of development, their operators would probably switch to producing higher value commodities which could earn export revenues for the country. At least they would save the losses now paid to subsidize capital costs, and more jobs would probably be created. Third, these added benefits would probably raise levels of food security in the country as a whole. (Note, food security aims to ensure that everyone is fed adequately, irrespective of whether the food is grown locally or purchased elsewhere using money generated from non-agricultural sources; by contrast, food self-sufficiency is aimed at the local production of food; the two polices, therefore, can result in contradictory practices).

NATURAL RESOURCE PRODUCTION

The rapid growth of lucrative practices to commercialize wildlife and plant resources has brought about significant changes to land uses in Namibia. Rather than almost all non-state land being perceived as farmland, it is now widely appreciated that natural resource production usefully complements – and in some cases replaces – farming. This is true for both individual farmers and for the country as whole. Freehold and communal farmers can earn incomes from tourism, trophy hunting and the sale of game while continuing to produce livestock. Their livelihoods are now based on a greater variety of incomes. Likewise, the Namibian economy has diversified and grown, encouraging policy makers to contemplate land uses other than conventional farming.

Much of the growth in the production system has been driven directly or indirectly by private enterprises run by previously
advantaged Namibians. The same is true for Intensive agriculture, and there is now an urgent need to encourage other people to play stronger leadership roles in all these enterprises. Efforts to achieve this would bring several benefits, not least in helping to promote a diversification of vested interests. It is indeed curious that most efforts to encourage previously disadvantaged Namibians to become commercial farmers have narrowly concentrated on cattle ranching.

The minimum annual expenditure on commodities and activities sold by the Natural resource production system amounts to at least N$3,200 million (see page 69). This is the gross output of the system, and it does not include the value of domestic consumption of the same resources. The total gross output of the whole agricultural sector amounted to N$1,878 million, which, by contrast, does include the value of domestic consumption. It is thus obvious that this new production system provides substantial value to Namibia. It is also clear that the production system offers extremely profitable ways of using much of Namibia’s land. These are trends that hold across the whole country, but some places will be best for farming and others for natural resource production. This means that the most effective uses of land need to be assessed for each area. Those assessments need to be as objective as possible, and they will also have to work out a useful balance between political claims on the use of land, and a vision for the future economic health and development of Namibia.

IN CONCLUSION

The chapter began by exploring two perspectives on agriculture in Namibia, one focusing on the value of farmland, the other focusing on the value of farm production. The book now ends by considering alternative views on two other aspects. First, we need to reflect on the comparative effort placed on developing the supply of commodities and that devoted to creating a demand for produce. Arguably, much more time, money and people are allocated to the supply side of the equation, for example in producing heavier, high quality livestock. That is all is necessary, but it is based too firmly on the assumption that markets can absorb whatever is produced. This is an assumption that has failed Namibia several times, in the case of Karakul, dairy produce and ostriches, for instance. Accordingly, a much greater focus on developing and sustaining markets is desirable. The challenge to do so should be taken up by the many parastatals and government organizations that represent the interests of Namibian agriculture (see page 21).

Finally, it is useful to consider the degree to which Namibian farmers are promoted or protected. Put differently, are Namibian farmers in business or are they the providers of the nation’s food? Are the failings of weak farmers ignored, or are the innovative efforts applauded of those who contribute to economic development? That farming is a risky, difficult enterprise requiring support and some protection seems undeniable, but levels of protection can be counterproductive when consumers pay too much, environmental conditions suffer, and farmers become complacent. Yet again, balance is needed. In striking that balance, however, more should be done to emphasize the economic value of farming. In the words of the President of the Namibia National Farmers Union, ‘Farming is a business, and it should be treated as such. If farmers want to make a meaningful contribution to the country’s economy, they should treat farming with a business mind and not as a leisure activity’. In pursuit of economic development, Namibia should be competitive in capitalizing on its comparative advantages. Innovation is necessary to improve current farming practices, and to bring new commodities into production and the market place. These are the steps that enabled societies to develop across the world. Let agriculture help to do the same for Namibia.


5. The total number of households on farmland is about 205,000. However, at least 70% of households in the small-scale cereals and livestock farming system (Chapter 4) derive most of their incomes from non-farming sources. Adjusting for those 70% means that a total of about 95,000 households rely fully or very largely on incomes from agriculture.


2: THE HUMAN ENVIRONMENT

1. However, recommendations made in the Ondelaal Commission report of 1966 led to about 170 commercial farms being incorporated into what was Damaraland and 110 farms into the then Namaland.

2. In terms of the Communal Land Act of 2002, commonage areas should be administered by traditional authorities. However, this happens to a limited extent, if at all in many areas.

3. The original farms allocated in the 1960's, 1970s and 1980s consisted of 106 farms in the Mangetti block of Oshikoto, 44 in the Kavango Mangetti block, 56 farms near Okamatapati, and 91 farms in the Rietfontein block. The number of new farms established since then consists of about 450 in Kavango, 80 farms in Caprivi, about 150 in Oshikoto and Omusati, and perhaps another 100 farms in eastern Oshiwampata and Omameke.


6. Same as Note 5.


8. These are prices in Johannesburg from which prices are set for maize grown in Namibia. The figures were obtained from the Namibia Economic Policy Research Unit (NEPRU) website: www.nepru.org.za

9. Same as Note 7.


11. Figures supplied by Jürgen Hoffmann, Agricultural Trade Forum, Windhoek.

12. Many more developed countries also limit exports on the grounds of health conditions, such as those that prevent meat exports from the northern communal areas. Another example is the difficulty Namibia has in exporting table grapes to the USA. Unsuccessful attempts have been made since 1999 to establish the exact permit conditions required by the USA to allow the grapes to be imported.


3: THE NATURAL ENVIRONMENT


5. Same as Note 3.

6. Adapted from data provided by the Ministry of Agriculture, Water & Forestry.

7. Same as Note 6.

8. Same as Note 6.

9. Same as Note 1.


4: SMALL-SCALE CEREALS AND LIVESTOCK

1. Based on an analysis of the 2001 Population & Housing Census and allowing for an annual growth rate of 2% in rural areas.

2. Analysis of data from Annual Agricultural Censuses conducted by Central Statistics Bureau, National Planning Commission.


4. Same as Note 2.

5. Same as Note 2.

6. Based on an average of 9.2 cattle and 10.7 goats per household as recorded by Annual Agricultural Censuses.


8. Proportions of farmers using manure: Omusati (63%), Oshana (54%), Oshikoto (54%) and Ohangwena (64%), Cape (11%) and Kavango (6%); from data collected in the Annual Agricultural Censuses.

9. Same as Note 2.

5: CATTLE RANCHING


3. For freehold farms, estimated from farm sizes and numbers of employees reported in the Wage Survey in 2004 of the Agricultural Employer’s Association, Windhoek, and from data collected in the 2001 Population & Housing Census. Estimates for communal areas are based on data in the 2001 Population & Housing Census. It was further estimated that 30% of households in open access communal areas would be involved in cattle farming for beef production, either as farmers or labourers.

4. The total number of farms and their sizes was estimated from data collected by the Wage Survey in 2004 of the Agricultural Employer’s Association and from various other sources that suggest that the figures are approximately correct. Data on the sample of 53 farmers was reported by International Development Consultancy. 2005. Study on land productivity and economic farming units. Report for the Ministry of Agriculture, Water & Forestry.

5. The original farms in the Oshikoto Mangetti Block averaged about 1,100 hectares, those in the Kavango Mangetti Block 5,000 hectares, and those around Okamatapati and Rietfontein between 5,000 and 7,000 hectares. Most of the newer farms in Kavango and Caprivi cover either 2,500 and 7,000 hectares. Most of the newer farms in the Okakarara district and at Gam, as analysed by Mendelsohn, J.M. & S. el Obeid. 2002. The communal lands of eastern Namibia. RAISON, Windhoek.


8. Same as Note 6.


6: SMALL STOCK FARMING


3. Estimated by overlying the boundaries of the farming systems on data from the 2001 Population & Housing Census, and increasing the rural population at a rate of 1% per year. The following figures were derived. For freehold farms: 9,600 households, of which about 3,600 are in the former Rehoboth district. For open-access communal land: Erongo 1,500, Amunimis 300, Hoachanas 100, Warmbad 100, Bondelweitz 350, and Namalund 850 households. For large-scale communal farms: former Damaland 1,700, former Namaland 1,150, Resettlement farms 260, and the Amunius Corridor 200 households. The total number of people these areas was estimated by multiplying the number of households and average rural household sizes recorded in the 2001 census.


5. Wage Survey in 2004 of the Agricultural Employer’s Association, Windhoek.


9. From the 2004 Annual Stock Census conducted by the Directorate of Veterinary Services, Ministry of Agriculture, Water and Forestry.


7: INTENSIVE AGRICULTURE

and vegetables are for 2003 as reported by Price Waterhouse Coopers. 2005. 
Irrigation development in Namibia: cost- benefit analysis. Report for Green Scheme 

2. For example, 30 dairy farmers are reported as 
employing 690 people (NRC, 2001. State of 
Environment Report on Agriculture, Ministry of 
Environment & Tourism, Windhoek); some 
1,500 permanent labourers are employed in 
the 2,400 hectare Hardap Irrigation Scheme 
(General Manager of Hardap Co-operative, 
personal communication); and over 1,000 
people (many as seasonal labourers) worked 
on an area of 150 hectares of grape orchards 
at Ausenkehr. 

3. Figures provided by Green Scheme support 
project of the Ministry of Agriculture, Water 
& Forestry.

4. International Development Consultancy. 
2005. Study on land productivity and 
economic farming units. Report for the 
Ministry of Agriculture, Water & Forestry.

5. Livestock census of 2005, Directorate of 
Veterinary Services, Ministry of Agriculture, 
Water & Forestry.

Windhoek.

7. In addition, small-scale farmers grow and 
sell white maize in Captivia. About 3,900 tons 
were produced on 9,000 hectares in 2004, 
according to the Ministry of Agriculture, 

8. Same as Note 4.

development in Namibia: cost-benefit 
analysis. Report for Green Scheme 
and Horticulture Initiative, Ministry of 
Agriculture, Water & Forestry.

8: NATURAL RESOURCE PRODUCTION

1. The number of visitors includes people 
coming to Namibia on business or to visit 
friends and family. Most of these ‘non- 
tourists’ are from neighbouring countries. 
However, at least 40% of all visitors are on 
holiday. The tourism data were provided by 
the Namibian Tourism Board and Turpie, 
J., Lange, G-M., Martin, R., Davies, R. & 
Barnes, J. 2004. What are the national parks 
worth? Economic value and financing of 
Namibia’s protected areas. Report for the 
UNDP/GEF project on ‘Strengthening the 
system of national protected areas’.


3. Henschel, J., Dausab, R., Moser, P. & 
Pallett, J. (eds). 2004. Nara: fruit for the 
development of the !Kuiseb Topnaar. 
Namibian Scientific Society, Windhoek.

4. Barnes, J.I., Lange, G-M., Nhuleipo, O., 
Muteyauli, P.; Katona, T. & Amupolo, H. 
2004. Preliminary valuation of the wildlife 
stocks in Namibia: wildlife asset accounts. 
Unpublished. Environmental Economics Unit, 
Directorate Environmental Affairs, Ministry of 
Environment and Tourism, Namibia. 
Species grouped as ‘Others’ are tsessebe, 
white and black rhinoceros, lechwe and lion.

5. Turpie, J., Lange, G-M., Martin, R., Davies, 
R. & Barnes, J. 2004. What are the national 
parks worth? Economic value and financing of 
Namibia’s protected areas. Report for the 
UNDP/GEF project on ‘Strengthening the 
system of national protected areas’.

utilization as a land-use form in Namibia. 
MBA thesis, University of Stellenbosch.

7. International Development Consultancy. 
2005. Study on land productivity and 
economic farming units. Report for the 
Ministry of Agriculture, Water & Forestry; 
and Erb, K.P. 2004. Consumptive wildlife 
utilization as a land-use form in Namibia. 
MBA thesis, University of Stellenbosch.

8. MET/NACSO. 2005. Namibia’s communal 
conservancies: a review of progress and 
challenges. NACSO, Windhoek.

9. Based on: Novelli, M., Barnes, J.I. & 
Humavinda, M. In press. The other side of 
the eco-tourism coin: consumptive tourism 
in southern Africa. Journal of Ecotourism; 
Erb, K.P. 2004. Consumptive wildlife 
utilization as a land-use form in Namibia. 
MBA thesis, University of Stellenbosch; and 
Turpie, J., Lange, G-M., Martin, R., Davies, 
R. & Barnes, J. 2004. What are the national 
parks worth? Economic value and financing of 
Namibia’s protected areas. Report for the 
UNDP/GEF project on ‘Strengthening the 
system of national protected areas’.

Barnes, J.I., Nhuleipo, O., Maegregor, 
development of wildlife and woodland asset 
accounts in Namibia. Research Discussion 
Paper, Directorate of Environmental Affairs, 
Windhoek; and Mendelssohn, J.M.& el Obeid. 
RAISON, Windhoek. The sale values of 
special plant products are estimates based 
on the most recent year, or several years of 
sales, as supplied by Pierre du Plessis of 
CRIAA, Windhoek: Blue soupam - 
N$432,000, devil’s claw – N$18,000,000, 
!Nara - N$76,800, mangetti - N$151,200, 
marula - N$2,025,000 and Kalahari 
melon - N$900,000.

9: OPPORTUNITIES AND CHALLENGES

1. Based on the following: there are about 1,000 
xclusive farms in communal areas with an 
overall average unit size of 3,500 hectares. 
As reported in the report of 2004 of the 
Permanent Technical Team on Land Reform, 
Ministry of Lands & Resettlement, a total of 
625 farmers had used the Affirmative Action 
Loan Scheme to purchase 3,470,000 hectares, 
while 300 individual farmers (as opposed to 
resettled groups) had been allocated 530,477 
hectares. These are figures reported in 2004, 
so the number of farmers will have increased. 
Additionally, an unknown but significant 
number of previously disadvantaged farmers 
have also purchased farms without the 
assistance of the Affirmative Action Loan 
Scheme.

2. Cattle off-take north of the fence is now about 
10%, or just over 100,000 cattle per year 
(see page 47). If off-take rates were raised to 
20-25%, which are those achieved south of 
the cordon fence, another 100,000 to 150,000 
cattle could be supplied for the formal export. 

3. Motinga, D., van Wyk, K., Vigne, P., 
Small Stock Situation Analysis. Report for 
Ministry of Agriculture, Water and Rural 
Development, the Ministry of Trade and 
Industry, Meat Board of Namibia, the 
Namibia Agriculture Union and the Namibia 
National Farmers’ Union.

Windhoek.

5. Newsletter of the Namibia National Farmers 
Union, April/May 2006.
A combination of environmental, historical, traditional and economic factors shape the range of farming practices and household economies that comprise Namibia's farming systems. The systems are evolving rapidly as new farming methods are introduced, new markets emerge, and new commodities are brought into production. The challenge is to select the most effective elements from this rich landscape of farming systems to further the development of Namibia in a global context.