

# Characteristics and uses of donkeys in Botswana

by

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## Abstract

*Donkey traction is an accepted form of technology in Botswana. Donkeys are friendly, quiet and intelligent. A survey was carried out on donkeys in Kweneng and Kgatleng Districts. Average body weight of mature male and female donkeys (4 years old) was found to be 140 and 139 kg respectively (range 105–182 kg for both males and females). Average body length was 97.4 cm (range 85–115 cm) for males and 100.0 cm (range 80–115 cm) for females. Average height at withers was 112.9 cm (range 80–123 cm) for males and 109.4 cm (range 98–122 cm) for females. Chest girth of the donkeys surveyed averaged 114.6 cm (range 88–128 cm) for males and 114.3 cm (range 84–128 cm) for females. Aspects of donkey use, management and nutrition are discussed.*

## Introduction

The donkey is an important animal in rural Botswana. It is used traditionally as a transport animal for riding, packing and pulling carts. It is also important as a draft animal. Donkeys are usually harnessed in pairs or in larger teams of up to eight for agricultural work. Donkeys provide valuable work for the rural dwellers as the animals have great patience and are highly dependable; because of these attributes they can be controlled by women and children. Botswana has the largest number of donkeys per person in Africa (Jones, 1991) and no special breeds are yet being preserved.

A study was carried out to investigate the body characteristics, feeds and feeding, management and uses of donkeys in Kweneng and Kgatleng Districts in Botswana.

## Donkeys in Botswana

The donkey population in Botswana was about 148 000 in 1988 (MoA, 1988). Table 1 shows the distribution of donkeys by district and region. Table 2 shows donkey numbers per farm in relation to herd size. The number of donkeys on traditional farms varied from two to more than 16. For the whole country, including commercial farms, the average donkey herd was 5.5 animals (MoA, 1988).

## Donkey survey

A sample of 120 mature (about four years old) male and female donkeys (jacks and jennies) in Kweneng and Kgatleng Districts were measured for body weight, body length, height at withers and chest girth. The animals were visually appraised for coat colour and hair texture. Information on the animals' feeds, feeding, management and uses was collected.

## Body and behavioural characteristics

Coat colour varied from cream and light brown through brownish grey and grey to dark grey. The hair was normally fine, short and smooth but untidy

*Photo 1: Donkey cart in Botswana*



Photo: Paul Starkey

**Table 1: Donkeys: farms, animals and average herd sizes by district and region**

Region and districts	Donkey farms		Total donkeys		Average herd (Donkeys/farm)
	Number	Percentage	Number (000s)	Percentage	
<b>Traditional farms</b>					
<b>Southern Region</b>					
Barolong	500	1.8	2.5	1.7	5.0
Ngwaketse South	1 900	7.0	12.2	8.2	6.4
Ngwaketse North	2 100	7.8	10.0	6.8	4.8
<b>Total</b>	<b>4 500</b>	<b>16.6</b>	<b>24.7</b>	<b>16.7</b>	<b>5.5</b>
<b>Gaborone Region</b>					
Bamalete	300	1.1	2.0	1.4	6.7
Kweneng South	2 600	9.6	11.7	7.9	4.5
Kweneng North	1 000	3.7	4.7	3.2	4.7
Kgatleng	1 100	4.1	7.5	5.1	6.8
<b>Total</b>	<b>5 000</b>	<b>18.5</b>	<b>25.9</b>	<b>17.5</b>	<b>5.2</b>
<b>Central Region</b>					
Mahalapye East	1 400	5.2	8.9	6.0	6.4
Mahalphe West	900	3.3	7.5	5.1	8.3
Palapye	2 000	7.4	11.4	7.7	5.7
Serowe	2 100	7.8	10.5	7.1	5.0
Bobonong	3 300	12.2	21.7	14.7	6.5
<b>Total</b>	<b>9 700</b>	<b>35.8</b>	<b>80.0</b>	<b>40.6</b>	<b>6.2</b>
<b>Francistown Region</b>					
Tati	1 200	4.4	6.1	4.1	5.1
Tutume	1 300	4.8	5.4	3.7	4.2
<b>Total</b>	<b>2 500</b>	<b>9.2</b>	<b>11.5</b>	<b>7.8</b>	<b>4.6</b>
<b>Maun Region</b>					
Ngamiland West	1 800	6.7	7.4	5.0	4.1
Ngamiland East	1 500	5.5	7.8	5.3	5.2
Chobe	100	0.4	0.5	0.3	5.0
<b>Total</b>	<b>3 400</b>	<b>12.6</b>	<b>15.7</b>	<b>10.5</b>	<b>4.6</b>
<b>Western Region</b>					
Ghanzi	700	2.6	3.2	2.2	4.6
Kgalagadi	1 100	4.1	4.9	3.3	4.5
<b>Total</b>	<b>1 800</b>	<b>6.7</b>	<b>8.1</b>	<b>5.5</b>	<b>4.5</b>
<b>Total traditional</b>	<b>26 900</b>	<b>99.4</b>	<b>145.9</b>	<b>98.6</b>	<b>5.4</b>
Total commercial (all regions)	160	0.5	2.0	1.4	12.4
<b>Botswana total</b>	<b>27 060</b>	<b>100.0</b>	<b>147.9</b>	<b>100.0</b>	<b>5.5</b>

coats were observed in poorly kept animals. Legs were straight and well-muscled, when viewed from the side, front and back. The feet were concave and well-angled. The line of the backbone of the donkey was straight, especially between the shoulders and the rump. The chests of most donkeys evaluated were deep and wide. The means and ranges of the various body dimensions measured are given in Table 3.

The donkeys were generally calm, quiet and obedient. They were very easy to handle for work and transport, and appeared to learn quickly.

#### Feeding systems

When they are not working, donkeys are traditionally left to graze freely on the range, throughout the year. There is a wide range of grasses in the veld, depending on location and

**Table 2: Donkey numbers in Botswana in relation to herd size**

Herd size	Donkey farms		Total donkeys		Average herd size (Donkeys/farm)
	Number	Percentage	Number (000s)	Percentage	
1-5	17 700	65.8	54.9	37.6	3.1
6-10	7 000	26.0	52.5	36.0	7.5
11-15	1 600	5.9	20.4	14.0	12.8
16+	600	2.2	18.1	12.4	30.2
<b>Total</b>	<b>26 900</b>	<b>100.0</b>	<b>145.9</b>	<b>100.0</b>	<b>5.4</b>

Source: MoA (1988)

season of the year, including *Panicum maximum*, *Brachiaria nigropedata*, *Digitaria eriantha* and *Eragrostis porosa*.

During the dry season, when grasses are scarce and their quality and crude protein contents are low, some farmers give their donkeys crop residues such as sorghum, maize and millet stovers and brans, cow pea husks and water melon fruits. Some farmers supplement their donkeys with fermented sorghum residue known as *chibuku*, and a few farmers give the donkeys salt licks. Donkeys may need about 10-20 litres of water a day.

### Management

Traditionally donkeys are not provided with roofed shelter. They often spend the night on the ranges although at times they stay in paddocks or roofless enclosures (*kraals*), made from branches, close to the farm.

Donkeys are very hardy animals; they are usually fit and strong and rarely experience health problems. Occasionally, cases of dourine, pneumonia and internal worms are reported to veterinary clinics.

Semi-arid Botswana provides a healthy climate for donkeys, who do not like wet environments. Even during the rainy season (October to February) there are long breaks between rain showers when the hot sun quickly dries up the rainwater.

### Uses

Donkeys are widely used for agricultural work on Botswanan farms. A donkey's ability to draw

agricultural implements is limited because of its low body weight (average about 140 kg). Consequently, donkeys are usually harnessed in pairs or in larger teams for farm operations. A donkey is said to be able to pull about 250 N, the equivalent of 16-20% of its weight, at a speed of 2.5-2.8 km per hour for 3 to 3.5 hours a day (Jones, 1991).

Donkeys are commonly used in rural Botswana for carrying people and loads, such as firewood. Normally a pack donkey's back is protected with a sack or an old blanket. Donkeys are commonly ridden by children and small people.

Donkeys are widely used to pull carts (Photos 1-3), both on roads and across flat, but uneven, land. Usually the donkeys are harnessed in teams to pull carts. Firewood and drums of water are often carried in donkey carts in rural areas (Photo 3). Donkey hire services are available in rural communities. The charges vary between districts, but a fee of 12 Pula (equivalent to about US\$ 6) might be charged to move household materials and goods over a distance of about 12 km.

Although both donkey milk and meat are edible, neither is popular as human food in Botswana. Donkey skin can be used for leather.

### Constraints to donkey power

There are several constraints on the use of donkey power in Botswana. These include:

- low numbers of donkeys per household or farm among poor farmers

**Table 3: Body characteristics of donkeys**

Characteristic	Male			Female		
	Average	Range	Standard error	Average	Range	Standard error
Body weight (kg)	140.1	105-182	2.61	139.2	105-182	2.28
Body length (cm)	97.4	85-115	0.87	100.0	80-115	0.93
Height at withers (cm)	112.9	80-123	0.81	109.4	98-122	0.67
Chest girth (cm)	114.6	88-128	1.20	114.3	84-128	1.11



Photo: A.A. Aganga

*Photo 2: Donkey cart crossing river in Botswana*

- poor nutrition and management of donkeys, so that the animals cannot exercise their potential tractive power
- reproductive behaviour. Male donkeys normally search out females in oestrus and neglect their work when nearby females are "on heat". This problem can be solved by castrating male work donkeys
- pregnancy in a female donkey which may reduce her tractive power. Pregnant animals are less likely to be used for traction in the last trimester of gestation
- diseases and poor health, which will reduce donkeys' tractive power. This problem can easily be overcome by giving the animals prompt veterinary care
- lack of suitable donkey implements, which impairs the animals' effectiveness in farming.
- the preference of some farmers for oxen; such farmers do not like to use donkeys at all for draft
- lost animals. Some donkeys are lost as a result of extensive roaming when grazing. Although some have identification marks which allow them to be rapidly returned to their owners, others may be missing throughout the crucial plowing period.

### Prospects for donkey power

There has been a considerable increase in the use of donkeys for traction in Botswana over recent years. There are good prospects for donkey power for traction and for transport in rural areas. National development and credit programmes like ALDEP (Arable Lands Development Programme) encourage farmers to use donkeys for traction.

Donkeys are very cheap compared to work oxen. A donkey costs about 100 Pula (US\$ 50) while an ox costs about 800 Pula (US\$ 400). This implies that more peasant farmers will be able to afford donkeys than oxen. Good, well-trained donkeys can be kept



Photo: A.A. Aganga

*Photo 3: Donkey cart carrying water in Botswana*

for many years. Since donkeys are not popular meat animals, they are kept until they become unserviceable.

### Conclusions and recommendations

Donkey power has been called an "accepted yet neglected technology" (Spore, 1990). This is certainly the case in Botswana. Farmers are very aware of the uses of donkey power and donkeys play prominent roles in the lives of rural people. Donkeys need to be given more serious attention by those concerned with rural development. Research is required on the nutritional requirements of donkeys in Botswana.

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