

## A survey of donkey farmers in Bobonong village of Central district in Botswana

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### ABSTRACT

The objectives of this survey were to characterise farmers keeping donkeys and document the numbers, management, use and marketing of donkeys in Bobonong village of Central district in Botswana. The data was collected through a structured questionnaire from five parts of Bobonong village, that is central, west, east, north and south. From each part 20 farmers chosen at random were interviewed orally during December 2004. Data was collected on demographic parameters of the farmers, numbers, management, use and marketing of donkeys in this village. The data was analyzed using Procedure Frequency in Statistical Analysis System. Most of the farmers were predominantly men (61%), older than 40 years of age (79%) and with either primary (45%) or no formal education (40%). Farmers kept a total of 887 donkeys, comprised of 177 foals, 288 mares, 293 castrates and 129 stallions. All the farmers (100%) practised traditional farming system. Donkeys were predominantly used for both ploughing and transport (81%). There were no organized markets for donkeys. Most farmers (71%) sold donkeys whenever there was a financial need. Although there were some constraints experienced in the donkey industry in Bobonong village, this enterprise could be one avenue for poverty alleviation for this rural area since most members of society participated in it. For this to be realised, farmers should be trained in modern management practices such as strategic supplementary feeding, vaccinating for diseases, proper housing and organised marketing channels and strategies. Research should be carried out to explore marketing of donkeys for both local and export markets in order to improve the welfare of the rural community and reduce poverty in the country.

**Keywords:** Botswana, demographic, donkeys, management, marketing use.

### INTRODUCTION

The popularity of the donkey as a draught power animal is a relatively new phenomenon in Botswana. In 1982, the Government of Botswana set up the Arable Land Development Programme (ALDEP) to assist farmers with draught power in crop production (Kerapeletswe, 1992). This increased the population of donkeys throughout the country from 127 000 in 1982 to a peak of 407 000 in 1997 (Botswana Agricultural Census Report, 2003). ALDEP also changed the perception that donkeys were only good for pulling carts and riding. More people are now using them for draught power than before (Patrick *et al.*, 1999). As summarised by among others Nengomasha *et al.* (1999), there are many advantages of using

donkeys for draught power compared to cattle in semi arid areas such as:

- they are cheaper to purchase
- they survive drought better probably due to their small size, ability to consume poor quality foods and lower feed and water requirements
- they are generally in better conditions at the start of the ploughing season
- they are easier to train and handle
- they are generally less likely to succumb to disease in tsetse fly areas and seem to survive better than horses in areas where trypanosomosis and African horse sickness are found
- there are few gender restrictions on their use and it is perfectly acceptable

in most cultures for women to own and work with donkeys

- if well managed, they have a longer working life
- they have only one main economic use that is the provision of draught power. Therefore, donkeys can channel most of their effort into provision of draught power and farmers do not have to be concerned much about the species other products. However, this has also been one of the main reasons donkeys have been neglected by farmers (Nengomasha et al., 1999).

The draught power shortages experienced by smallholder farmers after the droughts have increased the use of donkeys for ploughing (Nengomasha et al., 1999). However, there has been a scarcity of information on the capacity of donkeys to plough resulting in extension agencies failing to address issues raised by smallholder farmers on the proper use and management of donkeys for ploughing (Nengomasha et al., 1999), and also on availability of donkeys for sale, marketing channels and practices in the donkey trade. The objectives of this study were to characterise farmers keeping donkeys and investigate the numbers, management, use and marketing of donkeys in Bobonong village of Central district in Botswana.

## MATERIALS AND METHODS

A formal questionnaire was used to collect information on demographic characteristics of farmers keeping donkeys, management, use and marketing of donkeys in Bobonong village of Central district in Botswana. The village was divided into five parts, central, west, east, north and south. From each part, 20 farmers chosen at random were interviewed orally during December 2004. The data was analyzed using Procedure Frequency in Statistical Analysis System (SAS, 1999-2000).

## RESULTS AND DISCUSSION

Out of the one hundred respondents, 61 and 39% of the households were headed by males and females, respectively (Table 1). This is

consistent with the finding of Mrema (1997) who reported that 53% of male heads of household owned donkeys in Kweneng and Kgatleng districts. This is also consistent with the surveys of Nsoso et al. (2004a) for pigs and Nsoso and Rabasima (2004) for beef cattle where the majority of the farmers were males (76-87%). This contrasts with surveys of Nsoso et al. (2004b) where there was nearly equal participation in farming sheep and goats by males (52%) and females (48%) and Nsoso et al. (2005) where there were more female (84%) indigenous chicken farmers than males (16%). These findings could be attributed to the fact that donkeys are larger in size hence not easy to raise in terms of day to day management compared to smaller animals such as chickens, sheep and goats, therefore, fewer women are keeping them. More research should be conducted to elucidate this issue because of its importance to improve welfare of rural communities and reduce poverty in rural areas.

Table 1: Demographic parameters of donkey farmers sampled in Bobonong village of Central district, Botswana

Parameter	Frequency (%)
Sex of head of the household	
Female	39
Male	61
Age (years)	
Less than 20	3
21-30	8
31-40	8
41-50	14
More than 50	65
Not known	2
Educational level	
None	40
Primary	45
Secondary	8
Tertiary	7
Marital status	
Divorced	2
Married	48
Single	31
Widowed	19
Annual Salary (Pula)	
0-1000	12
1001-5000	24
5001-10000	4
None	60
Type of farming	
Commercial	0
Traditional/Subsistence mixed farming	100

Most farmers (79%) were older than 40 years, with either primary (45%) or no formal education (40%) (Table 1). These findings are consistent with those of Nsoso *et al.* (2004a and b) and Nsoso and Rabasima (2004) and Nsoso *et al.* (2005), where similar phenomena are reported. In agreement with these studies, young people i.e. those less than 40 years of age and secondary school leavers should be attracted into farming because the former are potential future farmers and the latter has education and skills, both attributes are required to increase agricultural production, improve community welfare and reduce poverty in the country.

The marital status of farmers varied with the highest proportions being married (48%), followed by single (31%) and widowed (19%) with very few divorced (2%) (Table 1). Most donkey farmers (60%) were not employed and they received no salary which means that they depended on farming for their living and those who were employed had low annual income (P1000-P5000). All the farmers (100%) practised traditional/subsistence mixed farming. Nsoso *et al.* (2005) also reported a similar phenomenon in terms of marital status of chicken farmers in Kgatleng Agricultural district in Botswana. Consistent with Nsoso and Rabasima (2004) such demographic parameters indicate that most community members participated in donkey farming, therefore improving performance in this sector would improve the livelihood of the majority of the people in this rural area where farming is a major agricultural activity.

The 100 farmers interviewed owned a total of 887 donkeys, which translates to about 9 donkeys per farmer. The total donkey population was composed of 177, 288, 293 and 129 foals, mares, castrates and stallions. The average 9 donkeys per farm falls within the national average of 5-11 donkeys per farm reported by the Botswana Agricultural Survey (2003). Most farmers (62-73%) reared 1-5 foals, mares and castrates per farm with 1% owning more than 10 donkeys per farm. The majority of farmers (53%) did not own stallions required for breeding while 42% owned between 1-5 stallions (Table 2). Such herd

structures could be in cognisance that farmers require working animals, which are provided by castrates that are easy to control compared to entire males which are difficult to control during mating times while mares may be either pregnant or lactating hence not available for work. Keeping few entire males is typical of traditional farming in Botswana where animals mix freely and any entire male animal may mate any female animal on heat, since the grazing areas are not fenced (Nsoso and Morake, 1999).

Table 2: Frequency of different classes of donkeys in Bobonong village of Central district, Botswana

Parameter	Frequency (%)
Number of foals owned	
0	33
1-5	62
6-10	5
10 and above	0
Number of entire males	
0	53
1-5	42
6-10	4
More than 10	1
Number of castrates	
0	16
1-5	67
6-10	17
More than 10	0
Number of females	
0	15
1-5	73
6-10	11
More than 10	1

The majority of the farmers (57%) did not give supplementary feeds to their donkeys (Table 3). The majority of the farmers (74%) giving their donkeys feed supplements gave roughages with only 7% giving concentrates (Table 3). Although most farmers (73%) provided water once a day, only 1% did so ad libitum (Table 3). The rudimentary housing provided was in the form of kraals by 56% of the farmers. Mushi *et al.* (1999), also reported that very little supplementation is provided to donkeys in Botswana, which are released to graze and roam freely, forced to scout for their own water most of the time and are kraaled during the ploughing season when they are

required. In agreement with Aganga *et al.* (2000) this is traditional farming system, characterized by low inputs, poor housing, poor feeding regimes and mediocre management.

Table 3: Management and health of donkeys in Bobonong village of Central district, Botswana

Parameter	Frequency (%)
Type of feeds	
Concentrates	3
Roughage	32
Roughage and concentrate	8
None	57
Watering frequency	
Twice a day not ad libitum	14
Once a day not ad libitum	73
Once a day ad libitum	1
Twice a week	4
None	8
Type of housing	
Kraal	56
None	44
Common diseases recorded	
Pneumonia	6
Eye disease	2
Others	4
None	88
Who looks after the donkeys?	
Owner or family member	88
Other	12
Vaccination for common diseases	
Yes	2
No	98
Control of external Parasites	
Yes	23
No	77

The majority of the farmers (88%) did not know any diseases that can affect donkeys (Table 3). Only 2% of the farmers vaccinated their donkeys against diseases such as Anthrax and Pneumonia. External parasites were controlled by 23% of the farmers. The donkeys were predominantly looked after either by farmer/family member or relatives (88%) (Table 3). This contrasts with Nsoso and Rabasima (2004) where all the farmers vaccinated their cattle mainly against Black Quarter, Botulism, Anthrax, *Brucellosis*, and only a few vaccinated against *Pasturellosis*. Some vaccines for cattle are provided free of

charge by the government e.g. Anthrax, Black Quarter, Contagious Abortion and Foot and Mouth (Gaynor, 2003) while this is not the case in donkeys and other species. This is because the beef industry is of tremendous importance in Botswana, especially for the rural people where it is the backbone of the economy while donkeys are only important for draught power and not for export. Another reason could be the misconception that donkeys never get sick (Mrema, 1997). The adoption of a routine programme of preventative vaccinations and treatments according to the prescribed schedule is the most economic approach to health control (Animal Production and Range Research Unit, 1980). Segwagwe *et al.* (1999) reported that little work on diseases of donkeys in Botswana has been undertaken. Mrema (1997) found that donkeys suffer from eye sores as a result of flies during summer and also suffer from internal and external parasites, but these are rarely treated because farmers feel that donkeys do not die of these afflictions and thus need no treatment.

Donkeys were widely used in Bobonong for ploughing and/or transport (98%) (Plates 1 and 2). Most farmers (73%) indicated that they valued their donkeys a lot in terms of providing draught power and transport. The majority (88%) of the 27% of farmers who did not value donkeys did not give any reasons at all why they thought donkeys were not valuable working animals, only 11% of the farmers indicated that the reason why they did not value their donkeys is because the meat is not eaten and there is no direct income from them. Only 15% of the farmers ate the meat of donkeys (Table 4). These results are consistent with those of Aganga and Tsopito (1998) where most farmers in Gaborone region used their donkeys for ploughing. The use of donkeys for transport and ploughing is also in agreement with what was said by Nengomasha *et al.* (1999), that donkeys are easier to train and handle than cattle for instance and there are few gender restrictions on their use and it is perfectly acceptable in most cultures for women to own and work with donkeys.

Table 4: Uses of donkeys in Bobonong village of Central district, Botswana

Parameter	Frequency (%)
Uses	
Transport only	9
Ploughing only	2
Ploughing and transport	81
Riding, ploughing and transport	6
None	2
Are donkeys valued?	
Yes	73
No	27
Reason for not valuing donkeys	88
No reason	2
Not eaten	9
No direct income	1
Not demanding	
Do you eat donkey meat?	
Yes	15
No	85

A majority of farmers (71%) did not sell donkeys. The few that did so, sold them to fellow farmers (71%) (Table 5). The selling price was generally low without any discrimination between foals, mares, castrates and stallions. The main reason why some farmers did not bother themselves by selling donkeys is the low prices of donkeys (P70-P400 per animal), which is within the national average price per donkey of P99-P334 depending on the region (Botswana Agricultural Census Report, 2003). This contrasts with sheep and goat marketing in Kweneng district of Botswana where Nsoso *et al* (2004b) reported that the price of small stock in the market ranged from P100 (young stock) to P400 (mature stock) with most people selling castrated males while breeding stock sold for P200-P300. In agreement with the study of Nsoso *et al.* (2004b), there was confusion as to what price was suitable for a particular type and size of donkey and also there was little price differentiation on donkey units in the market. This helps to explain the casual manner in which donkey farmers approached the choice of a marketing channel. No market has been created yet for donkey meat as no one sold it; the same applies to by-products such as manure and skins. Few

farmers (42%) used the weight of the donkey to determine the selling price of their donkeys while age and gender of donkeys were used by very few farmers (less than 10%). This contrasts with the findings of Fielding and Krause (1998), which has shown that in purchasing donkeys one should consider things like the health of the donkey, the colour and the size. Majority of the farmers (58%) suggested that donkey meat could be exported to other countries (Table 5). Exportation of donkey meat would provide an alternative source of income for farmers, which is consistent with the vision of diversification for sustainable development promoted during the Botswana International Trade Fair (Botswana International Trade Fair, 1996). This vision is thought to represent a long term goal of future production. However, for this to be realised there is need to develop infrastructure compatible with the requirements for export markets and manage donkeys better than at present to enable them to meet international meat standards that are stringent.

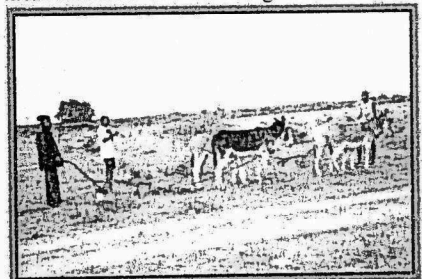


Plate 1: Donkeys pulling a plough in an arable field in Bobonong village of Central district, Botswana

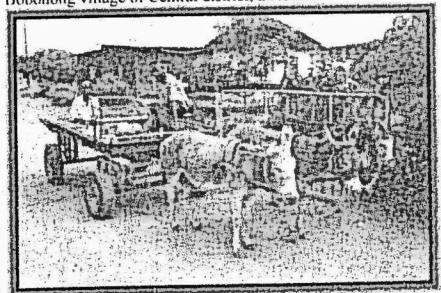


Plate 2: Donkeys transporting farmers and their agricultural produce from arable fields into Bobonong village of Central district

Few farmers (3-6%) sold 1-5 donkeys per year irregularly (Table 5). This contrasts with the study of Nsoso et al. (2004) in sheep and goats where 42% of the farmers sold their animals regularly. This is consistent with the results from a nation wide survey by Nwafor (2004) in Gambia, which indicated that about 94% of respondents sold their small ruminant animals because of urgent cash needs. Consistent with the findings of Nsoso *et al.* (2004b), very few farmers sold less than 2 animals per transaction. These are low off-take rates but similar to the national average

of 15-20% reported by Botswana Agricultural Census Report (2003) for donkeys. Most of the farmers interviewed also indicated that the donkey market is non-existent hence the low off-take rates (Table 5). Seleka (1999) also alluded to lack of formal markets for sheep and goats as a major contributing factor to low off-take rates.

Parameter	Frequency (%)
Are donkeys sold?	71
Yes	29
No	
Where are donkeys sold?	
To other farmers	71
Nowhere	29
Selling price for a foal (Pula)	
0	50
50-70	3
100-200	22
250-400	5
Not known	19
Two goats	1
Selling price for an entire male (Pula)	
70	1
100-200	51
250-400	18
Not known	28
Two goats	2
Selling price for a castrate (Pula)	
70	1
100-200	53
250-400	18
Not known	26
Two goats	2

Parameter	Frequency (%)
Number of entire males sold	
0	96
1-2	3
More than 2	1
Number of castrates sold	
0	94
1-2	4
More than 2	2
Number of females sold	
0	96
1-2	4
Weight used in pricing	
Yes	42
No	58
How price is determined?	
Age	1
Gender	6
No idea	70
Negotiations	2
Price is fixed	9
Work power	12
How can marketing be improved?	
Exporting donkey meat	58
Forming cooperatives	4
No idea	36
Opening village abattoirs	1
Improving care of donkeys	1

Table 5. Marketing practices and channels for donkeys in Bobonong village of Central district, Botswana

### CONCLUSIONS

The donkey farmers in Bobonong village of Central district in Botswana were mostly elderly males who were above 40 years of age. Most of these farmers were illiterate and unemployed, depending on subsistence farming for their survival. There were on average 9 donkeys made up of 2, 3, 3 and 1 foals, mares, castrates and stallion per household kept under traditional management

system. Donkeys were thought to be resistant to diseases and parasites since very few farmers vaccinated them for common diseases and controlled parasites yet they were still productive. Most farmers kept donkeys for transport and ploughing and not for meat production as is the case with other animals such as beef cattle. Donkeys were sold alive to other farmers and there were no organised markets. The selling price per donkey was

generally low, the same for all age classes and differed between farmers. More research should be conducted on donkeys to establish markets for live animals and slaughter animals for export. Farmers should be taught good husbandry practices to improve productivity of their donkeys.

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