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Some challenges to the use of donkeys in Kenya

by

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Abstract

In Kenya, the use of donkeys for draft is constrained by their small size, lack of appropriate and affordable harnessing systems, an absence of suitable implements, negative cultural beliefs and animal mistreatment. Poor harnessing is the most obvious constraint. The collar harness has received widespread publicity but remains largely unadopted. The reasons for the poor adoption rate are discussed. Solutions include more attention to awareness creation and to the use of bottom-up participatory extension methods involving farmers at all stages of the extension process. Given the trends currently affecting draft animal power in Kenya it is concluded that donkeys have a greater role in the future than at present.

Introduction

The number of oxen and donkeys employed in tillage and traction in Kenya is believed to be over one million. Oxen are mainly used in tillage operations and to a lesser extent in transport, using sledges and carts. Donkeys are mainly used for transport, either pulling carts or as pack animals. Pack donkeys are especially used by pastoralists. The use of donkeys in tillage operations is a recent development which is not yet widespread. As the human population rises, farm sizes are getting smaller. This is leading to a reduction in the amount of land that can be set aside for feeding cattle. Moreover, stock theft in many areas is threatening the widespread use of oxen. Donkeys are believed to be relatively hardy and more tolerant of diseases than oxen. The objective of this paper is to review the constraints to increasing the use of donkeys, especially in tillage work.

The constraints

The constraints to a more widespread use of donkeys are as follows:

small size

harnessing problems

negative cultural beliefs

mistreatment of donkeys.

Many farmers believe that donkeys are unsuited for tillage work because they are smaller and therefore much weaker than oxen. Based on the guideline that an animal can exert a force of approximately 15% of its body weight, one donkey can pull about 200 N. The widely used *Victory* mouldboard plow working under dry semi-arid conditions can sometimes have a draft requirement of over 5000 N. This would require far too many donkeys to pull it than is practical. Nevertheless, it is envisaged that the use of donkeys for traction will increase with time as cattle and oxen become ever more expensive to buy and maintain.

Poor harnessing is the most noticeable problem wherever donkeys are widely used. Harness materials range from thin ropes and wires to rubber bands, cut from car inner-tubes. They are crudely tied around the neck of the donkey. In certain areas oxen technology (the yoke) has been applied directly to the donkey without any modifications. The search for suitable donkey harness has been going on in the country for more than ten years. The animal draft component in the integrated smallholder agricultural research proposal of 1981 devoted some time to the development of a suitable donkey harness system. A collar harness was developed from a design borrowed from Germany. W L Micuta, with the assistance of the Bellerive Foundation in Switzerland, helped in the development of the first two collar harnesses for donkeys. The design which has received wide publicity through demonstrations at agricultural shows and in papers and articles is being made within the Department of Agricultural Engineering, University of Nairobi, Kabete.

Several people have been trained to manufacture the harness. However the harness has not been as widely adopted as had been envisaged. Although effective it is expensive at U$65 for a carting set and U$50 for a plowing set. This is too expensive for the ordinary farmer. The very few farmers who have adopted the harness have done so with

Photo: Paul Starkey

Photo 1: Maasai woman plowing with donkeys fitted with collar harnesses, bridles and bits supplied by a non-governmental organisation in Kenya

assistance from non-governmental organisations or as part of a package (Photo 1). Moreover, it has been noticed that most farmers do not know how to use the harness properly.

The provision of a braking system is very important when pulling carts but most farmers who happen to posses the harnesses seem not to know how to properly use the braking facility. This is a serious misuse especially in hilly areas with undulating landscape where a braking facility is essential.

Recently KENDAT (Kenya Network for Draught Animal Technology), together with the Kenya Society for Protection and Care of Animals (KSPCA), has worked with farmers in the Limuru area. It has introduced a cheaper harness (U$15) made from polypropylene bags, padded with sheep skin for the breast-band and the breaching strap and wood with a rubber strip from a car tyre for the saddle. Feedback from farmers indicates that the materials used to make the harness tend to wear out quickly. Farmers have also complained of having to tie too many ropes to harness the donkey.

More tests are currently being undertaken in the field and at the Agricultural Engineering Department, University of Nairobi. More improvements in the design are envisaged. The breast-band harness which is widely adopted by farmers throughout Africa is not known by many in Kenya. KENDAT in conjunction with KSPCA has recently undertaken to offer this type of harness to donkey users.

The *Victory* plow, which for decades has been powered by oxen, is still the only tillage implement widely available in Kenya. It is heavy and difficult to transport. The recent introduction of the Rumpstad plow, either in single form or as a multipurpose tool bar has not made things easier for the donkey as the plow is much heavier than the *Victory* plow.

Although carts have been designed specifically for use by donkeys, their design still leaves a lot to be desired. However, studies are underway to develop more suitable designs.

Panniers have also been developed for transporting goods, water and slurry. The slurry pannier is aimed at assisting farmers with zero-grazing facilities to transport slurry to the fields where fodder is grown. The full potential of these panniers has not yet been achieved.

The donkey is regarded as a low status animal by some communities. This has led to mistreatment and lack of proper care. In some parts of eastern Kenya (Machakos) donkey droppings are believed to cause tetanus. Donkeys are also considered

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unfriendly, and the fact that they can bite and kick has led to them being shunned in these areas. Yet the Maasai people are extremely comfortable with donkeys. In this community donkeys seem to have gained favour due to their perceived ability to resist some diseases (mostly trypanosomiasis) compared with cattle.

In certain areas (Kirinyaga) the donkey seems to have replaced the ox as the main prime mover in commercial transport of water and farm produce. But the commercial inclination has increased their mistreatment as the handlers compete for business. Constant senseless whipping is the order of the day. A campaign to create awareness of donkey potential and to overcome negative cultural beliefs is needed in areas where donkeys are readily available but under-utilised.

Possible solutions

There is no doubt that donkeys are a useful resource for the provision of draft power in Kenya. The fact that they are cheaper to buy and sustain than oxen and are also more tolerant to diseases, especially trypanosomiasis, makes them attractive. To popularise their use a number of things need to be done.

KENDAT experiences working with farmers show that many farmers are not fully aware of the donkey's potential. Creation of awareness regarding their potential could be very helpful. A recent demonstration on the use of donkeys for tillage purposes in Machakos was received with disbelief. It turned out that farmers in the area had never seen a donkey plowing. They could not believe their eyes when this was done on their own farms using a donkey borrowed from a farmer who thought it could only be used for carrying goods on its back. A single demonstration changed the people's perception of the donkey's capabilities. The farmers expressed keen interest to try it out themselves on their own farms. Such gatherings can also be used to overcome cultural beliefs. By demonstrating that the donkey is a docile, friendly and intelligent animal, farmers are likely to change their attitudes towards it.

In the past, the promotion of donkey technology, like that of other technologies, has been based on ineffective top-down approaches as occurred in the 1960s and 1970s. Farmers were not adequately involved in the evaluation of the technology and as such no constructive feedback could be expected from them. Recent successes in animal draft power technologies elsewhere in Africa suggest that on-farm evaluations by farmers themselves using technologies selected by the farmers from a range of options offered to them is the way forward (Starkey, 1995). Zambia (Palabana), Tanzania (Mbeya and Tanga) and to some extent Kenya (DAREP, Embu) are good examples of successes achieved through farmer participation in technology assessment.

Farmer involvement in technology assessment and development increases their confidence, and enhances their ability to cope with changes. They are able to share experiences gained through such involvement with other farmers. They become the focal point and make important decisions while researchers and extensionists become facilitators. Options are offered as opposed to single prescriptions.

The tendency by researchers and extensionists to offer single prescriptions rather than options, without detailed objective evaluations of the technologies has contributed to the low adoption of many technologies. The low adoption of the collar harness is an example of what can happen when farmers are not offered adequate options from which to choose what best suits their technical and socio-economic conditions. For more than ten years in which the collar harness has been actively promoted nobody told the farmers there existed simpler alternatives such as the breast band. There seems to have been no attempt on the part of the promoters to analyse past experiences which indicated that the collar harness had been rejected in other African countries, notably Zambia and Zimbabwe.

Conclusions

Donkeys will continue to be a sustainable and valuable resource for the provision of draft power in Kenya. Their more effective use will depend on the development of appropriate harness systems and the improvement of cart designs and implements. This can only be effectively realised if the farmers themselves are involved in making technology choices and in the evaluation of such technologies. Any trial or evaluation must be on-farm as opposed to on-station.

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