

**A** woman farmer once said "I can only sell what I can carry on my head". Living several kilometres from a motorable road, her income was limited by transport capacity. Even in the rapidly developing India of today, 50% of the villages lack a good road network (Upadhyay 1991).

In many parts of the tropics, more and more men must leave the rural areas to seek work in towns. The women are left to feed and support the children and the old people who can no longer work. But without the men, there is often not enough power to do critical farming tasks such as timely ploughing and cultivation.

#### Where to find power?

One power source that may be particularly appropriate in such situations is the donkey. There are some 40 million donkeys in the world, of which 51% are in Asia, 28% in Africa, and 18% in Central and South America. Donkeys are mainly found in arid and semiarid areas and in mountainous countries such as Ethiopia, which alone has about 10% of the world's donkeys (Fielding 1991).

Particularly in Ethiopia, India and Pakistan, donkeys are immensely important as pack animals, carrying literally anything that can be balanced on their backs. Firewood and water are the classic loads, not only for donkeys, but also for women!

Why are donkeys not used more by women themselves? In most societies, men are traditionally responsible for the draught animals such as oxen and buffalo. Donkeys are commonly regarded as low-status animals by men (Stephens 1985). Back in 1891, Kipling listed many derogatory sayings about the donkey in India, eg, "May your homestead be ploughed by asses", said to be a common Hindu curse. Regardless of any technical advantages of the donkey, women who recognise their own low status in society may be reluctant to be associated with an animal that is also of low status.

But there are also strong technical arguments in favour of donkeys, and support services can play an important role in bringing these to women's attention.

#### Donkey power

Donkeys normally weigh about 125-150 kg and frequently carry loads weighing half or more this. The appropriate load will depend greatly on the size and condition of the donkey. A healthy, well-fed donkey can carry more and work longer than a donkey weakened by disease. The distance to be travelled, the hilliness of the terrain, the desired speed, the pack saddle, the bulkiness of the load and the size of the animal also influence how much can be carried.

In addition to pack work, donkeys are used for ploughing, cultivation and carting,



#### Power to the women

## Are donkeys an overlooked option?

*The donkey is a source of power which may be particularly appropriate for rural women. Denis Fielding and Anne Pearson review the potential of the donkey to reduce the workload of women in developing countries.*

**Denis Fielding and Anne Pearson**

but their light weight means they can only pull implements which require low draught forces to move them. As a rule of thumb, a healthy donkey can pull with a force equivalent to 16% of its bodyweight throughout a working day. To be sure, donkeys can produce draught forces higher than this, but they are unlikely to be able to sustain them for long periods without frequent rests.

In practice, this means that donkeys are useful for tasks such as weeding, particularly on sandy soils, which tend to be in the areas where donkeys are found, and for carting loads over local roads. However, for ploughing and pulling carts in hilly areas, more than a donkey is needed. In parts of East Africa, 4-6 donkeys can be seen pulling ploughs. In Morocco and Pakistan, a donkey is sometimes paired with a camel. The donkey is easy to guide and turn, and the camel provides most of the power for pulling.

#### Additional pluses

Donkeys receive little special feed and are usually left to forage for themselves when they are not working. Despite this, they generally maintain acceptable body condition, because donkeys have a special ability to digest poor-quality fibrous matter (Pearson & Merritt 1991). Therefore, they are cheaper to feed than larger draught animals.

The technical case for offering donkeys

as an option for use by women includes the following points:

- as firewood and possibly water become more and more remote from villages, the women who traditionally carry these key resources need assistance
- to increase or even maintain crop output in the face of male emigration, sustainable sources of power will be needed
- donkeys are appropriate for women because of their size and relative ease of handling
- extension efforts with men to promote draught animals or tractors for ploughing usually lead to large areas being planted that are beyond the woman's capacity to weed without the aid of something like a donkey-powered weeder
- if women farmers are to help themselves, they need to meet other women farmers: donkeys have an important role in human transport
- donkeys do not cost as much as oxen to buy and so are more easily affordable - and less likely to be stolen!

#### But also minuses

Donkeys are prone to internal parasites, and in Africa to trypanosomiasis. They are often overused, leading to lameness and skin wounds. Overuse, particularly in towns where there is nothing to eat during periods of standing, reduces their food intake and body condition.

*Without the donkey, I couldn't transport half as much as I do. A woman in Peru fastening the load onto her freight carrier.*

The equipment used with donkeys was often designed for oxen, and is usually too heavy for both the donkey and for any women users. Women are built differently than men, and this has to be taken into account in implement design. Moreover, many women have to carry a child on their back during work. The ease with which they can do this while working with an implement will influence their choice of implement.

### Enabling adoption by women

Before the potential of donkeys can be fully realised, new users will be involved in considerably more work, eg leeding, training and general care - in addition to the initial monetary investment. Kunze and Loos (1991) report a negative circle of labour shortage in Botswana which inhibits women's adoption of donkeys. Without enough labour, production is low, and there is no spare cash to invest in draught power such as donkeys. Without power, incomes decline further and more men must leave to look for work, which in turn leads to an ever greater shortage of labour. In such situations, considerable initial subsidy may be needed to break the negative spiral.

Even with financial subsidies, if women are to adopt donkeys, the benefits need to be appreciated at an early stage. This implies the availability of trained donkeys with suitable support services. This would

require multiplication stations and subsidised distribution schemes. While such financial and organisational demands might appear difficult to meet, this has not prevented a country such as Malawi from launching a donkey importation scheme in order to boost its supply of draught power (Kumwenda & Mateyo 1991).

Forming donkey-user groups and encouraging apprenticeships with experienced users - a widely practised indigenous training method - may also be a possibility of acquainting women with the advantages of using donkeys.

Even if women do begin to use donkeys, there are many additional barriers. Credit to buy implements, for example, is often a problem when women have little or no collateral to offer. Professions associated with donkey use such as disease treatment and harness-making are usually male-dominated, although this need not remain so.

As Jones (1991) reports, adoption of donkey use as a result of demonstration alone may not be successful. The issue of status may be, in some circumstances, insurmountable.

### Day of the Donkey

There are, however, signs that the value of donkeys as draught animals is increasingly appreciated. Contrary to what was previously thought, it has been shown that in Botswana donkeys now provide more traction hours than cattle (Baker 1988). Also in Botswana, Kunze and Loos (1991) report the mounting of training courses for women to encourage them to become conversant with donkeys.

Donkeys are an option for women that has not been fully explored. Uptake may



*Donkeys can carry a load weighing half their weight or more. A drawing from Ethiopia. Artist: Tesfaye Taye.*

be slow and the initial impact small. However, it is likely to be sustainable. Donkeys are indigenous to the tropics and, with the increasing recognition of the value of indigenous systems, it may be that the Day of the Donkey is approaching!

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Denis Fielding, Institute of Ecology and Resource Management, University of Edinburgh, Scotland

Anne R. Pearson, Centre for Tropical Veterinary Medicine, University of Edinburgh, Scotland

### Talking about equines

This overview is largely derived from papers and discussions at the First International Colloquium on **Donkeys, Mules and Horses in Tropical Agricultural Development**, held in September 1990 at the University of Edinburgh in Scotland.

The main conclusions and recommendations which came out of the colloquium were the following:

1. In many countries donkeys presently make a substantial contribution to tropical agricultural development, which is not fully recognised by the governments concerned.
2. Most aspects of donkey use have not been investigated or quantified as for other draught animals.
3. Significant opportunities exist for more efficient use of donkeys through improved husbandry and attention to welfare.
4. Technical issues justifying early attention include:
  - parasitic conditions affecting donkeys as well as important disease problems such as trypanosomiasis
  - the design of harnesses and equipment specially for donkeys.
5. Extension issues of importance include:
  - communicating the suitability of donkeys for use by women
  - counteracting the low social status of donkeys, which represents a major barrier to their more widespread use, by education and by devoting greater scientific and project attention to donkeys.

The proceedings of the colloquium can be obtained for £20 (including postage and packing) from the Equine Colloquium Organisers, Centre for Tropical Veterinary Medicine, University of Edinburgh, Easter Bush, Roslin, Midlothian EH25 9RG, Scotland, UK.

Denis Fielding and Anne Pearson would also be pleased to hear from anyone interested in contributing to a Tropical Equine Network as a means of exchanging knowledge and experiences.