THE WELFARE OF DONKEYS

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‘to the neatness of donkeys and to D1 who behaved mostly in vain’

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Introduction

There are c.44.3 million donkeys worldwide. This number has increased by 15.6 per cent since 1981 (FAO estimated figures, FAO 1992). A small number are kept in the western world as pets, as companions for horses, or for work, for example in occupational therapy programmes. However over 95 per cent live in the developing world where they are kept mainly for work. They provide transport for people
and goods and are often used in small scale agricultural systems for light tillage, seeding and weeding of crops. After years of being ignored, their use is now being encouraged by both government and non-government development agencies (see case study from Western Sudan, Wylam 1991; and Arntzen 1984; Goeden-Reis & Baron 1985; Ogle 1990).

Yet, despite their valuable contributions to human society, very little is known about donkeys, they are given less consideration than other species of livestock, and their welfare is often neglected. Indeed, Aluja and Lopez (1991) consider the donkey 'certainly the most neglected and abused animal in Mexico'; and Bakkoury and Belemlih (1991), writing about conditions for donkeys in the city of Fes in Morocco, describe how: 'Almost 82% ... were housed ... in totally inadequate places ...Feeding allowances were not satisfactory... Basic care of the animals was minimal... Superficial wounds and serious lacerations along with lameness were frequently observed on animals required to work up to 10 or even 15 hours a day. These animals are beaten, neglected, maltreated and always overloaded.'

Animal welfare, though neither a new nor exclusively western idea, is at present a popular subject for discussion, particularly in northern Europe. For the purposes of this review, concern for donkey welfare requires that donkeys are maintained in good physical and psychological health, and requires practical consideration of all the necessary aspects of donkey husbandry. Good welfare should result if the donkey is provided with adequate and appropriate food, water, shelter and health care, if attention is paid to its behavioural needs, and if it is free from fear (adapted from Farm Animal Welfare Council 1992). Many of these points have to be guided by common sense in the absence of firm knowledge about the needs and motivations of donkeys.

This review looks at the position of donkeys in human society, examines the main welfare problems of donkeys with reference to this position, investigates some of the factors affecting attitudes to donkeys, and argues that donkey welfare will only be improved if connected to improvements in the conditions of the people who own and use them.

The place of donkeys in society.

A number of factors help explain why donkeys have low status. They are usually the cheapest, often the only affordable, work animal and therefore tend to be associated with the poor. If donkeys are not available, women often have to do the same work (Mohammed 1991). In contrast with cattle, buffalo and camels which are usually kept for their milk and meat as well as work, whose hides are cured for leather, and whose dung even has a number of uses (Pearson 1992), donkey bye-products are not generally used. There are exceptions to this: for example, there is a trade in donkey meat in Nigeria from donkey producers in the north to donkey eaters in the south; donkey meat and milk are consumed, and donkey hides are used, by some sub-Saharan pastoralist tribes such as the Turkana of Northern Kenya (personal observation); and donkey meat salami is produced and consumed in Italy. Camac (1989) reports that donkey milk was sold in London in the last century. However, in general, the donkey is not considered a multi-use animal, and so its role within the household economy is more circumscribed.

The continuing low status of donkeys in more affluent societies probably results from a similar historical role. Nowadays, donkeys are often
bought as companions for horses and ponies with little knowledge or consideration of their requirements or social needs (French pers comm).

There has been little work on how and why people use and perceive donkeys, though development projects (see Croxton, Mageed & Sulliman 1991; Wylam 1991) and projects sponsored by animal welfare charities (see Bakkoury & Belemlih 1991) provide some background information. Further studies would be useful in planning strategies to improve welfare, especially considering the diversity of situations in which they are used. Some of the methods employed in participative rural appraisals, such as progeny history interviews and priority ranking exercises, would be useful in these circumstances. The links between poverty and welfare could be more effectively elucidated if wealth ranking was part of the study (Grandin & Young 1992). Wylam (1991) and Croxton, Mageed and Sulliman (1991) all stress the need for community participation if improvements in the use and husbandry of donkeys are to be developed and adopted.

Above all, the scope for improvements to donkey welfare is limited because donkey owners tend to be amongst the people least able to afford inputs to their animals.

**Aspects of husbandry affecting welfare**

**Physical health, injury and disease**

Simple surveys on average life expectancy, physical condition and health problems of working donkeys in various countries all suggest that basic welfare could be improved by a few, relatively simple improvements in husbandry, and contradict the general perception that donkeys are stoical and hardy, and able to survive with little attention (eg Pradhan, Mahato & Joshi 1991; Ramachandran & Srinivas 1991).

Examination of the teeth of working donkeys at markets and other public places in Turkey, Egypt, Tunisia, Ecuador and Peru suggests that the average life of a working donkeys is about 11 years (Svendsen 1981). This is considerably less than the 37 year average life of a donkey in the UK. Although donkeys in the UK are mainly kept as pets, and their owners are likely to keep them when they are past a useful working age, this nevertheless suggests that better care could extend the life and improve the welfare of working donkeys.

Analysis of figures from a national survey in the Gambia also suggests unacceptably high mortality; the mortality of donkeys (and horses) exceeded reproductive capacity, necessitating a gross import of animals (Sumberg & Gilbert 1992). However, this information may be inaccurate; respondents to such surveys tend to exaggerate mortality and under report fecundity on the principle that 'what the government counts, it later taxes' (Pratt & Loizos 1992).

The common health problems are usually simple to treat, if the owner can afford the treatment. Studies in various countries, based on observations at markets, flour mills or other sites in the community (in Mexico, Rodriguez-Maldonado 1991), cases brought to clinics (in Sudan, el Dirdiri, Damir, Wahbi and & el Dirdiri 1986), or a combination of these (in Ethiopia, Yilma, Feseha, Svendsen & Mohammed 1991),
as well as questioning of donkey owners (in Mexico, Aluja & Lopez 1991; Sims & Maldonado 1991), all suggest that internal parasites, foot problems, back and harness sores, and wounds are the commonest problems. Bliss, Svendsen, Georgoulakis, Taylor and Jordan (1985) report increases in body condition as a result of routine worming of donkeys in Greece, and similar results have been found by Feseha, Mohammed and Yilma (1991) in Ethiopia, and Khallaayoune (1991) in Morocco. However, there are no published studies on the economic advantages of using simple treatments such as wormers.

Bolbol and Saleh (1987) detail the hoof problems of donkeys in Upper Egypt; most hind limb problems are caused by poor hygiene. In some cases, shoeing, either of all feet, or only front feet, will improve foot health.

More serious diseases, those that are difficult or expensive to treat, tend to be listed in surveys as 'also seen', without any indication of morbidity. Despite this, trypanosomiasis and histoplasmosis are two diseases highlighted as being worthy of greater research attention. (Barrowman 1991; Refai 1992; Svendsen pers comm) The donkey seems to be the equid with the greatest resistance to trypanosomiasis, and the disease only seems to become a clinical problem through a precipitating factor, such as the stress of work. Histoplasmosis is prevalent in Egypt and has no cure.

Assessment of, and improvements in, donkey health are hindered by attitudes to the worth of the donkey. Yilma, Feseha, Svendsen and Mohammed (1991) in Ethiopia remark on the low number of donkeys presented annually to the clinic compared to other domestic animals (eg 270 donkeys compared to 20,000 head of other domestic animals in 1987-88), and that when presented, the donkeys are in an advanced stage of illness, often having been given a number of traditional treatments first.

Prevention is the most practical way to deal with health problems. The above references suggest that much ill-health could be improved by a combination of better husbandry, routine de-worming, routine foot care, well designed harnesses, and regular, consistent, considerate, and hence less stressful, working practices. Some problems cost only the price of attention to prevent. For example, Ramachandran and Srinivas (1991) report that, in Karnataka State of S.India, 'most deaths are due to road accidents'. Rodriguez-Maldonado (1991) found 'a large number of post-traumatic corneal lesions resulting from abuse by the owner.

In addition to these immediate problems, the comparative or absolute poverty of the majority of donkey owners could lead to two further problems in the future. Western drug companies are investing less and less in the development of drugs for diseases confined to the developing world because they feel they will not recoup their investment. Drugs that are available are likely to remain prohibitively expensive to most donkey owners away from one of the subsidised welfare schemes (eg run by International Donkey Protection Trust (IDPT) or the Society for the Protection of Animals Abroad (SPANA)). Thus investigation of any traditional treatments would be worthwhile before too much knowledge and too many plants are lost, due to clearances of common land.

**Nutrition**

Donkeys are nutritionally adapted to life in arid lands by, for example, being efficient users of low quality, high fibre food, and able to tolerate
up to 30 per cent dehydration (Yousef 1991). These adaptations contribute to the donkey's reputation for being able to eat anything and survive on very little. Many donkeys are fed largely by being turned out onto common land to search for their own food.

Nevertheless, as with any animal, a working donkey requires a regular supply of food and water if it is to maintain its health. Although there has been little work on donkey nutrition, guidelines for the feeding of donkeys are provided by McCarthy (1989), and recent work on energy requirements and digestive physiology of donkeys is reviewed by Pearson (1992). Work affects nutrition by increasing nutritional requirements, primarily for energy, and by reducing the time available to eat.

The most common welfare problems associated with nutrition are undernutrition caused by an absolute lack of food, or malnutrition caused by an unbalanced diet, coupled with high parasite burdens. These problems are greatest where nutrition is only marginally sufficient even without the demands of work. Seasonal work often falls at the time of poorest body condition and least food, for example, in the tropics, when ploughing at the end of the dry season, in preparation for the start of the rains. In these circumstances, if not provided with supplementary food, the donkey has to draw on remaining body reserves, and will lose weight. This situation occurs for donkeys in northern Kenya (author's personal observation) and has also been described for draft cattle (Momamed-Saleem & von Kaufmann 1989).

A problem also exists for donkeys worked while pregnant and with young foals at foot. The conflicting physiological demands on the dam have detrimental effects on reproductive success and foal survival (Mohammed 1991); a similar effect has been reported in cattle. This has obvious welfare implications, though as a husbandry strategy, balancing foal survival over good and bad seasons, it may be the most productive for the owner under the specific economic circumstances.

Unfortunately traditional sources of food available for draft animals are reducing as a result of social changes. For example in Kenya and other parts of Africa, common land is being subdivided and privatised. Also the size of land holdings for small scale farmers tends to be decreasing as human populations rise (Kumwenda & Mateyo 1991), so each family is producing fewer crops, and new strains of food crop often produce less, and poorer quality, animal food by-products (Smith 1985).

Whereas the quality of ruminant diets can be improved usefully by the addition of a nitrogen source such as the leaves of leguminous trees, equids gain far less benefit from such additions, requiring more complete dietary supplements. These are often too expensive for donkey owners.

Most work on equine nutrition has focused on sport horses and most work on working animal nutrition has focused on ruminants. Donkeys differ from both these groups. Although there has been some work (Pearson & Merritt 1991; Pearson, Cuddeford, Archibald & Muirhead 1992) exploring these differences, there is a need for in situ research with donkey owners.

**Harnessing for pack and draft use, and other equipment**

Poor equipment can prevent a donkey from working comfortably and efficiently, and can with prolonged use damage the donkey. Krause
(1993) provides a thorough review of the harnessing of donkeys for pulling carts, with the following conclusions. Essentially, there are a number of good designs for harnessing equipment that have been developed around the world. The exact design is less important than whether it fits the individual donkey, is comfortable, places the weight correctly and allows the donkey to pull efficiently. Ideally, donkey, harness and equipment pulled should be adjusted as a single unit. Horizontal forces should be pulled from the chest or from a neck collar. It is important to avoid pulling on the wind pipe. As the breast band harness is the simplest and cheapest design, it is probably the best for new areas. Vertical forces should be supported on the back (or hind legs for pack work) but not on the neck. Weight on the back should be spread over the rib cage using a saddle, or wide straps; it should not rest on the dorsal spinal processes. If using a cart, a breech strap should be used to allow some down hill braking by the donkey. The same principles apply to harnessing for tillage, and the loading of donkeys for pack use.

Welfare problems arise when donkeys are introduced into new areas, where people can no longer afford traditional technologies, or where economic pressures force people to overwork their animals. In areas where donkeys are being actively introduced, extension services employing properly informed staff are needed to ensure that good practice is introduced from the beginning, including the training of local artisans to make suitable equipment which is designed to be properly adjustable. In Kitui, SE Kenya, where donkeys have only recently been introduced, the author has observed the use of inappropriately woven nose bags to stop donkeys browsing while working. The idea was copied from Western Kenya where the bags are made with an open basket weave, but in Kitui, the weave is so tight that the bags fill with saliva and obstruct the donkeys breathing.

Unfortunately, even where there is a tradition of donkey use, the skills to make good equipment are being lost. Suitable materials such as leather are becoming too expensive for most donkey owners, as are the skills of good artisans. Increasingly harnesses are made from unsuitable materials (Aluja & Lopez 1991), or pieces of old or broken equipment, such as broken saddles from riding horses, are used (ILPH 1993). As an example of the loss of skills, Doxey and Shemwell (1992) record that, in areas of Greece, saddles are no longer made with hinged cantles, which are adaptable to the conformation of the donkey; instead they are made with fixed cantles. They also record similar changes affecting farriery skills.

**Work practices**

Although donkeys should not be worked until they are physically mature, usually around three years old, they are often worked earlier (Aluja & Lopez 1991), resulting in chronic musculo-skeletal injury. It is not clear whether these problems arise from ignorance or economic pressures. There should be a long term advantage to treating an animal with care to prolong its working life. However for many donkey owners, the realities of life do not allow them the luxury of such long term considerations. This applies also to the way the animal is worked. Work is inevitably stressful to the donkey, but stress can be minimised by using the donkey regularly and considerately, by working it during the cooler parts of the day (Smith 1985) and where possible, working it only every second or third day (Pearson 1992). The work practice may be changed to make the work easier, for example, using an ard plough is less arduous than using a moleboard plough.

Donkeys hired out for work seem to have to work particularly hard. Mohammed (1991) reports that in Ethiopia the daily hire charge is the
same irrespective of the load carried or the distance travelled.

Other points of husbandry practices can also affect welfare. Some methods of hobbling to restrain donkeys cause discomfort and even wounds, and are unnecessary as comfortable methods of restraint are available (Aluja & Lopez 1991; Mohammed 1991); and animals without necessary shelter from sun, rain or biting insects can suffer. Mohammed (1991) reports that donkeys in fields in Ethiopia can be seen during the day, constantly tormented by biting flies.

Breeding

The idea of improving the breeding of donkeys is suggested in a number of recent papers, but welfare can be compromised for animals not selected primarily to tolerate local foods, environment, and diseases, unless the owners can afford the inputs required to realise the greater potential of the improved animals (Starkey 1985; Vercoe, Frisch, Young & Bennett 1985). Pradhan, Mahato and Joshi (1991) consider that the lack of good breeding stock has been a major problem in Nepal; Aluja and Lopez (1991) suggest that the quality of donkeys in Mexico has deceased due to lack of selective improvement since their introduction; and a similar situation is reported in Malawi (Kumwenda & Mateyo 1991). However, it is not clear upon what criteria such claims are being made. If, as reported, the donkeys are generally poorly nourished, misused and overworked, then they will not be showing their genetic potential. It is likely that in most places where donkeys are used extensively, their breeding has progressed through a combination of a little human selection and a lot of natural selection to produce an animal generally suited to the environment. It is not always the case that a larger animal is more appropriate, two smaller animals may be better, and the owner risks less in the event of one falling sick.

Attitudes to the welfare of animals

Attitudes to animals vary across cultures. Welfare problems are likely to be greatest in cultures that consider animals to exist only for the service of humans. Welfare problems tend also to arise where people become dissociated from their traditions.

Although current discussion of animal welfare tends to be couched in the idioms of scientific terminology, many cultures and religions recognise that it is important to treat animals well. For example the Mahabharata, states that: 'Persons endowed with intelligence and purified selves should behave toward other beings after the manner of that behaviour which they like others to observe towards themselves' (Mahabharata XIII:115:22, cf Chapple 1993).

Most settled cultures that have long traditions of dependency on, and use of, animals, have a basic respect for the animals under their care. The animals may be subjected from time to time to painful procedures (eg castration, branding, certain traditional treatments), but overt cruelty is rare. For example, Samburu pastoralists in Northern Kenya consider cruelty to animals unacceptable, and will not use the branches of certain trees as herding sticks because the wood is too hard and, if used to hit the animal, could damage the animal before
breaking (Lemunyete pers comm).

On the other hand, the belief held by some Christian communities, that animals exist to be used by mankind without consideration for their welfare, was introduced by Protestant missionaries into parts of Africa, and has shaped attitudes to animals in Nigeria (Odeyemi pers comm). Changes in attitude can also result from changes forced upon a society. The European colonisers of Zimbabwe assumed that local people did not know how to look after animals, and so insisted that people and animals live apart from each other. As a result, much traditional understanding of animal husbandry was lost (Jones 1991).

Another situation in which traditional understanding of animal welfare is lost is urban drift, an increasingly common demographic trend, which disrupts people from their traditions and leaves them relatively poor and often disillusioned in towns. Some of these people will end up as donkey users with no experience of donkeys. Twenty per cent of donkey owners surveyed in Fes had started working with their animals within the previous two years (Bakkoury & Belemlilh 1991), with the results described in the introduction to this paper. Aluja and Lopez (1991), referring to Mexico, point out the association between poor welfare and human poverty, lack of education, and social problems such as alcoholism. Such social situations impose severe economic pressures on people and are likely to reduce their perception of the importance of donkey welfare. With reference to such social situations and others in which people are living in poverty, animal welfare is sometimes said to conflict with economic interests and human welfare. In this view, ethical consideration is seen as an unaffordable luxury. However a more reasonable viewpoint is to link human and animal welfare and argue that both are compromised and in need of improvement.

Assessment of welfare

Indicators of welfare would be useful to monitor donkey welfare, and the effects of changes in work practices and methods of husbandry. An indication of the physical welfare of a donkey population can be gained by a combination of clinical examinations, including a visual assessment of body fat scores, and assessment of average age by examination of teeth.

A greater understanding of the behaviour of donkeys might also provide a useful indicator. The behaviour of a working animal is modified by its work and husbandry regime. Although donkeys appear adaptable, it is not known to what extent they are able to compensate by behavioural modification, and how stressful the resulting changes are to the donkey. There is a need for basic research into the behaviour of donkeys under human management, drawing on behavioural research on feral or wild donkeys. Research comparing the effects of good and bad management and work practices on aspects of donkey behaviour and temperament would also be interesting and useful. The methodology in French (1993), using paired adjectives in the assessment of temperament, could be applied in such a study.
Conclusion

Husbandry factors directly affect donkey welfare. However improvement in donkey welfare is as much dependant on addressing attitudes that underlie the way people treat donkeys, and on recognising the constraints which either limit their ability to improve, or lead to a decline in, their treatment of donkeys, as it is on improving knowledge of husbandry and better work practices. Improvements in donkey welfare must be linked to improvements in the welfare of the people who use them.

There is a need for more basic research on donkeys. While there is some value to detailed scientific investigation of donkeys, the inability of most donkey users to pay for external inputs, suggests that, for the improvement of donkey welfare, the greater proportion of research should be conducted with, or close to, the people who rely on donkeys for their livelihoods.

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