

# CHAPTER 5. TRANSPORT AND LAND FORMING

## 5.2 SPECIALIZED EQUIPMENT FOR PACK ANIMALS

### 5.2.1. EQUIPMENT FOR PACK DONKEYS

#### PACKING RULES

Donkeys are very good pack animals, and pack equipment can be very simple. The pack load is taken in the middle of a donkey's back. There are three very important rules - load balancing, back padding and protection of the backbone.

All loads should be balanced evenly, with similar weight and bulk on either side of the animal so that it is comfortable. It also makes it easy for the operator, for if loads are even and balanced at the start, they seldom shift or require adjustment.

The material in direct contact with the back of the donkey should be soft. Hard materials should not press directly on the back of the animal. Some form of soft padding is required to prevent sores developing from hard materials pressing on the skin or rubbing during walking. Back padding can be made of any soft material, such as cloth or sheepskin, and may be padded with locally-available soft material such as animal hair or kapok. Sacking materials can be used, but they are not ideal - hessian can be quite rough. In some cases it is not necessary to attach the back pad to the donkey - such pads stay in place by their own weight and that of the load. As loads have a tendency to move forward or backward, the pad, saddle and/or load should be secured with a breast strap, breeching strap (under the tail) and a belly band. Securing loads is essential in hilly areas.

The back padding of the donkey should be shaped in such a way that it stops pressure being placed directly over the backbone. This is the main reason for preferring a pack saddle. Fig.2 shows how the weight is taken on either side of the backbone. Even a simple back pad should be constructed in this way, with extra padding either side of the backbone to take the load (Fig.12 D)



*Fig. 1 Water carrying in Namibia  
Photo: Paul Starkey*



*Fig. 2 Simple wooden pack saddle taking weight off backbone.*

*Photo: J.E. Ashburner*



*Fig. 3 Donkeys carrying sacks of grain, Zimbabwe.*

*Photo: Paul Starkey*

### **SIMPLE PACKS**

The simplest form of packing involves a single (small) sack placed on the back of the donkey, or two (small) sacks slung either side over the back of the donkey (Fig.3). This is ideal for carrying small quantities of grain to and from a grinding mill. The only requirement is that there should not be a hard knot directly on the animals back. (A soft pad should be used and a flat knot created to the side of the backbone). This simple system of sack packing can be used to train donkeys (initially empty or light sacks are used and the weight can be gradually increased as the animal becomes used to the pack load). There is no need for any belly strap. Although this system is easy, it is better to carry sacks using a simple pack saddle (Fig.7).



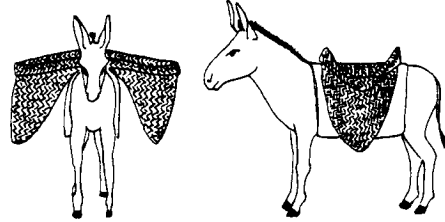
*Fig. 4 Donkey and pannier baskets in Egypt.*

*Photo: Paul Starkey*

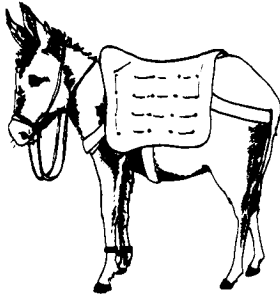
Similar to this is a simple system of carrying water. A broad soft strap is used to connect two water containers. Naturally, the containers should be filled with similar quantities of water. A back pad should be used to further protect the animal. It is best that ropes are not used to join the containers, as they would tend to cause the animal discomfort and might cut into its skin. If broad straps are not available, then it is necessary to construct a small back saddle or frame to bear the load.

### SOFT BASKETS

Soft pannier baskets can be used in a similar way to sacks. Large woven baskets should be joined together (preferably during their manufacture) by a broad back cover. A soft back pad should be placed on the donkey before the pannier baskets are put on the donkey and loaded.



*Fig. 5 Flexible pannier baskets (Zimbabwe).  
Source: after Jones, 1991*



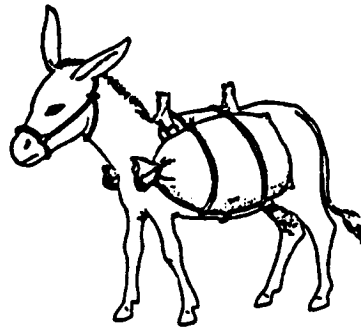
*Fig. 6 Packing pad with straps (Morocco). SPANA (undated)*

### PACK FRAMES

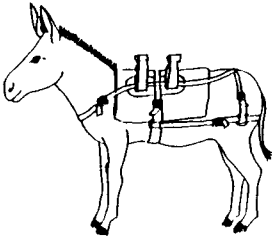
For most loads, a pack-frame or back saddle should be used. The frame or saddle may be made of wood. It can be angular or rounded. It must be symmetrical (even on both sides) and should be well padded for animal comfort and to prevent sores. The packframe may be held in position by a breastband, breeching strap and belly band. Frames can be specially designed to carry a wide variety of objects including logs, firewood, jerricans and rocks. Specialized saddle baskets or pannier baskets can be attached to the pack frame.

### LOADS AND COMFORT

Farmers have to be sensitive about the amount of load a donkey should carry. Because donkeys are so docile and willing, it is easy to overload them. Farmers have been known to make donkeys carry their goods equal to the weight of the donkey. This is excessive. In Ethiopia, it has been suggested that donkeys should carry 35-40% of their weight. In Zimbabwe, it has been recommended that in their initial years, donkeys can carry about 1 kg for every month of their age. Thus a three-year old could carry 36 kg. Depending on the local conditions, adult animals should be able to carry 40-80 kg, provided the pack is comfortable.



*Fig. 7 Carrying sacks attached to a simple saddle.  
Source: Inades, 1985*



*Fig. 8 Full saddle for panniers complete  
with breast, breech and girth straps*

