

CHAPTER 2. HARNESSING AND TRAINING

2.1 HARNESSING OF DRAUGHT CATTLE

2.1.4 HARNESSING SINGLE CATTLE

INTRODUCTION

Harnessing of single draught cattle is relatively rare although it would appear to have several advantages for low draught operations such as planting, weeding and light transport. Single animals are also used to operate certain types of stationary machinery such as water lifting devices, cane crushers and milling machines. Although water lifting with animals is common in countries such as India, Pakistan and Egypt, milling machines have rarely been adopted on a wide scale outside areas of influence of the "projects" which have introduced them (Fig.1).



Fig. 1 Demonstration of the use of a single ox to operate a village mill.

Source: Starkey & Ndiame (Eds.) 1988

Three main systems of harnessing have been adopted in various parts of the world. These involve attachment to the horns (the head yoke), across the shoulders (the shoulder yoke) or the use of a collar harness. A further variation may be introduced where the harness yoke is permanently attached to the implement, as is the practice for some cart designs used particularly in India.

THE SINGLE HEAD YOKE

This is traditionally made very simply from a short curved beam into which notches are cut for lashing to the horns. It is preferable to pad the yoke to avoid injury to the animal (Fig.2).



Fig. 2 A single head yoke in use for inter-row weeding.

Source: Starkey & Faye (Eds.), 1990

THE SINGLE SHOULDER YOKE

This yoke is used in parts of China and modified versions have also been introduced to some countries of Africa, notably Tanzania. The one illustrated (Fig.3) is made from two shaped beams which are interlocked.

Care should be taken that the restraining strap does not ride up under the animal's neck causing it to choke. This may occur if the "V" shape does not properly fit over the shoulders of the animal. The yoke must also be carefully carved to avoid injury to the animal's skin and padding may be advisable.

Note the swingle tree which is required for single yokes so that they can pull from a central point behind the animal.

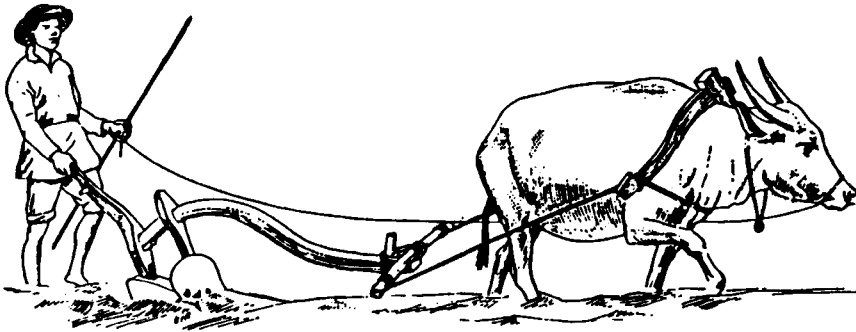


Fig. 3 The use of a single shoulder yoke with a water buffalo in China. The plough is attached directly to the swingle tree.
Source: Hopfen, 1969

SIMPLE COLLAR HARNESS MADE FROM SACKING

A very simple harness may be made by tying two sacks so that they fit over the shoulders and under the chest of the animal *Fig.4*). The harness is attached to the swingle tree behind the animal. Care must be taking with this harness that skin sores don't develop.

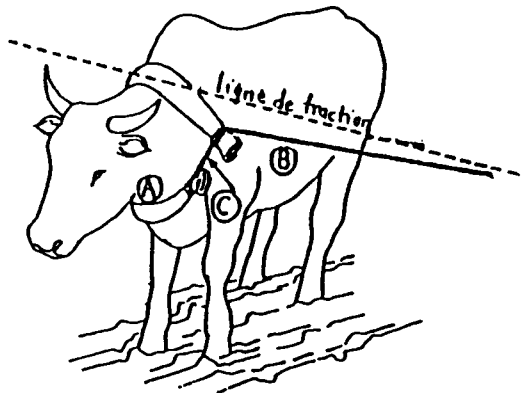


Fig. 4 A flexible shoulder harness made from two heavy sacks as introduced in parts of Zimbabwe.
Source: Barwell & Ayre, 1982

THE THREE PAD COLLAR HARNESS

Various designs of three pad harnesses have been used in Africa and they are made by a few artisans in both Kenya and Zambia. Despite being apparently more comfortable for the animal, widespread farmer adoption is not yet apparent. The curved hames are carefully shaped for the animal and made from boards some 3 cm thick. Padding and draught hooks are arranged as briefly indicated below (Fig.5).

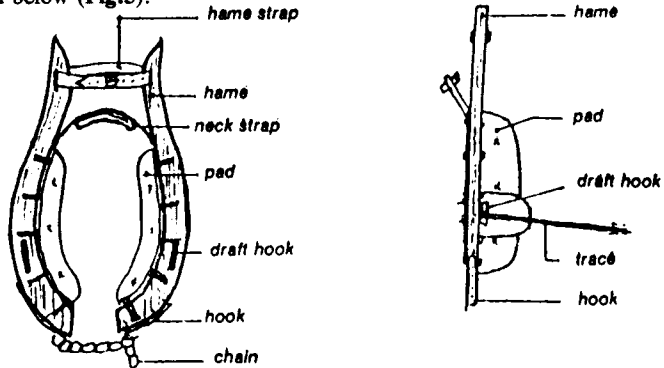


Fig. 5 Two views of the three pad collar developed for use with oxen or more particularly, donkeys in Kenya. Source: Dibbits, 1985

INCORPORATION OF THE YOKE ON THE CART

When a cart is frequently used for transport, it may be more convenient to leave the yoke permanently attached. This is illustrated for a farm cart below (Fig.6).



Fig. 6 A single shoulder yoke permanently attached to the shafts of a 4 wheel cart in Southern India. Photo: Paul Starkey