

**World Association for Transport Animal Welfare and Studies (TAWS)**  
**The challenge of improving transport animal welfare in the world:  
ways forward**

*Workshop held 24 April 2003, Silsoe Research Institute, UK*

## **REPORT OF DISCUSSIONS RELATING TO APPROPRIATE EQUIPMENT**

*Group members:*

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The Group discussed some of the main issues arising from the morning presentation on equipment for working equids:

Equipment for working animals, with emphasis on equids in developing countries

The following issues arose:

### *Harnesses*

- Keep them simple and use local materials if you want to achieve adoption. Low cost is important (a maximum of £0.30 was quoted for Kenya).
- Apply the basic mechanical principles discussed in the morning's paper.
- Don't be dogmatic, flexibility in the search for solutions is more likely to achieve local resonance.
- Technicians are more important than professors. That is *practical* knowledge and an ability to apply it are more important than attention to fine theoretical detail.
- Collars are frequently too expensive for donkeys (breast bands are generally preferred).
- Yokes are used for mules in Syria with no difficulty so long as good padding is provided to take the pressure of the vertical members.
- Don't fix a situation that is not bust. That is don't look for more elegant solutions in situations where there is no demand. (For example mule yokes in Syria).
- When introducing to a new area, only introduce technologies that have been *user-proven* elsewhere.
- Appearance *can* be important. Status and fashion can be aids to adoption. So a few frills may make all the difference. Using a carrot and a stick by encouraging pride can give good results.
- Different sized harnesses are needed for different shapes and sizes of necks. Local manufacture may not always take this into account and may offer one size to fit all.
- The high-lift harness demonstrated only produces a maximum of 12 kgf on the pelvic region. Much less than a rider

### *Carts and tyres*

- Tyre pressures are important to reduce rolling resistance. High pressures are OK for roads, but pressure should be reduced in soft conditions to reduce the rut depth. If pressures are too high then wear in the central part will be increased.
- Pneumatic tyres are generally to be preferred over solid wheels. But the cost of acquisitions and maintenance will be higher.

- Generally roller or ball-bearings (sealed and lubricated) are preferred to reduce friction and prolong life.
- Balance of a two-wheeled cart is only important when loaded.
- Centre of gravity ditto, and should be as low as feasible.
- Four wheels complicate design (turning table) and increases costs.
- Brakes are only really necessary in hilly terrain. External band brakes are a cheap option.

### *Adoption*

- The current requirement is to move from top-down approaches to more participatory (farm family and scientist/technician) approaches to technology development. This is likely to result in greater adoption rates.
- Technical development requires technology building blocks to be moulded according to the socio-economic environment.

### *Funding*

- We believe that development in the transport animal arena will require technology to be created and /or adapted and adopted. We sense a current aversion to technology creation – even participatory technology development – and wonder who will fund the future requirements.