



# Zambezi Working Donkey Project

## Final Report – January 2021

In March 2020, Veterinarians Without Borders – Sweden (VSF) provided Zambezi Working Donkey Project (ZWDP) with a grant of £1350 to support the improvement of the design of carts and harnesses for working donkeys.



### How is *Vets Without Borders* impacting the lives of working donkeys in Zambia?

Working donkeys were introduced into Zambia around 15 years ago and provide an essential resource for their owners in rural areas, who use them for farming and transportation of water, firewood, charcoal and goods to market. It is a harsh life for many of these animals, with poverty and lack of knowledge about donkey care often resulting in extreme suffering through over-use, neglect and injury. Over the past year ZWDP has begun to tackle these issues by setting up an outreach programme visiting rural villages in Livingstone and Kazungula Districts and has already improved the lives of many donkeys (and as a result their owners) in this area.

One of the ways we improve the performance and well-being of working donkeys is by providing training on how to make appropriate harnesses and to modify carts/ploughs. Most scotch carts in Zambia use the single shaft two-wheel design, with two or more donkeys taking the burden of the load on their necks by means of a wooden yoke. ZWDP uses simple harnesses designed to distribute the weight better so the donkeys pull through their chest rather than their necks. However, there is still considerable weight on the necks, especially when the cart is stationary.

**We identified a need to improve the design of our harnesses to make them more comfortable and practical, as well as to find a way to adapt the common model of scotch cart for donkey use.**

***Vets Without Borders - Sweden* is supporting ZWDP as we design and trial a new type of harness for use with scotch carts, and designed to take the weight off donkeys' necks.**

# Project Update

We received funds from VSF in March 2020 but, due to unfortunate timing with the onset of Covid-19 and restrictions regarding travel and public gatherings in Zambia, initiation of the project was delayed. However, in July 2020 we were able to begin trialling several harness templates, and since then we have produced two contending prototypes from our own designs which are given below.

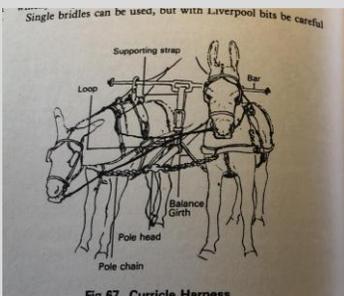
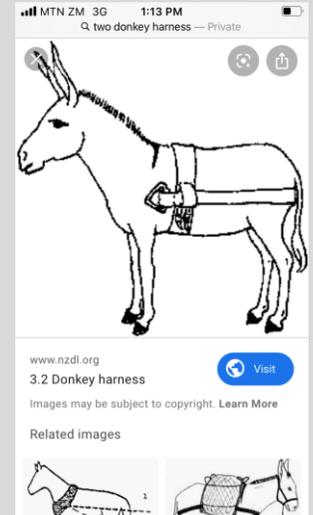
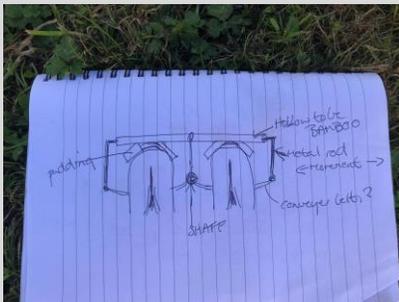
Many people have tried over the years to come up with a simple, donkey friendly harness however these have invariably still resulted in the weight of the shaft being borne on the neck. We know this is far from being the strongest place, indeed far from it, donkeys' necks are considerably weaker than those of other equines. The most suitable and comfortable place for weight bearing is the saddle area just behind the withers. This is what we are striving to achieve.



## The obstacles we face

- Donkeys in Zambia are driven in pairs either side of a single shaft and up til now under crude ox-yokes on their necks
- The carts are generally fashioned from old car chassis - not purpose built and enormously heavy with extra weight added by clumpy hardwood shafts.
- Already heavy carts then overloaded
- Huge distances the donkeys are driven to get to markets.
- Complete ignorance and lack of understanding of the pain and distress caused to donkeys by the terrible wounds caused.
- Materials too expensive for owners who mostly live below the poverty line.

## Ideas Board ...



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# Prototype A

Despite the challenges highlighted above we were able to come up with a prototype harness which is based on the ‘Powerset’ design (further information attached). This meets most of the required specifications – some weight is taken off the neck, a brace and braking system is applied, and the ‘driver’ has use of reins meaning more control and less reliance on beating with sticks. However, further work is needed to develop the sample as we still have a neck yoke in place to support the shaft. We also need to make more samples of the same once we are happy with it, to begin trialling and feedback with cart owners.



## Prototype A Feedback

We trialled our prototype ‘humane harness’ with several farmers, under supervision. While people understood the benefits once these were explained to them, the difficulty came when we asked owners to put together and fit the harnesses on their own. Unless under close supervision we found that there were various points at which the harness could be fitted the wrong way, and so lose effectiveness and/or cause discomfort or even injury to the donkeys. Earlier observations around using the more complicated western style harnessing also proved true with this model, even though it is much simpler.

The prototype was based on the ‘powerset design’ by Dr Peta Jones, a well-established donkey expert in South Africa. We have been in contact with Dr Jones and, while this design does go a long way to solving the problem of the single shaft cart, she has also experienced issues with adoption. Our conclusion was that in the current Zambian context this design will create more issues which may cancel out those it is trying to solve...

# Prototype B

So far we have had a great deal of success with replacing the ox yokes with rudimentary harness made from disused conveyer belt which when trimmed down makes a strong, durable and cheap medium with which to work and has been a good place to start.

It is fact that the donkeys are driven in pairs with a single shaft is the biggest hurdle. Horses and ponies around the globe are used in this way but in order to balance the weight of the shaft the harnesses are very complicated - this will not work as it's hugely doubtful it would be fitted correctly resulting in more wounds than it would save.

It has seemed to us incredible that in all the time that man has utilised equines that no one had come up with a better idea and having done some research found that in fact they had. Going back many centuries the Romans, Celts, Asians etc were all driving some sort of chariot in this fashion in the form of shaft with a shaped yoke sitting on the horses backs behind the withers. This seemed worth investigating. It is appealing also because it raises the shaft which in turn shifts the axis and moves the weight further back.



We began by making a saddlepack from mealie sacks and straw attached to existing harness. This cost little to make, materials were easy to obtain and worked up to a point but was difficult to get the crosstree from the shaft to sit in one place and straw quick to flatten under the weight and we felt this stood a chance of being ignored leading spinal injuries.

We are now working on building a saddlepack using two shaped wooden slats that will sit either side of the spine spanned by a grooved bridge in which will sit the yoke/crosstree. This will attach to our existing harness and with a padded numnah made from old blankets/chitenges underneath. Our team are working on how best to assemble this in a way that it can be easily modified or replaced by the donkey owners if needed.

We will be trialling this at home over the next few weeks and once the rains have ceased with luck will be distributing a set or two at our next outreach clinic for owners to test with loaded carts to see how it performs.

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**ZWDP wishes to thank Vets Without Borders for enabling this project!**

We welcome any comments, questions or suggestions; [zambeziworkingdonkeyproject@gmail.com](mailto:zambeziworkingdonkeyproject@gmail.com)