

## Draught animal power: experiences of farmer training in the Northern communal areas of Namibia

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### Abstract

*More than 80% of draught animal training in the northern communal areas of Namibia has been conducted by the farmers themselves, using their own resources. Farmers appear to be satisfied with the training, especially for ploughing and transport purposes. Many farmers have acknowledged the trainers in their communities to whom they take their animals for training. Not all are good trainers. There are some trainers whose "blood" is considered weak and it is believed that if they train animals, the animals will be weak and have problems in pulling implements and carts. With this belief it implies that few animals would be trained per period of time consequently retarding progress on expanding cultivated fields and volume of goods transported by draught animals. Like any other draught animal training programme, the Namibian Draft Animal Power Programme (NDAPP) initiated a deliberate strategy to train farmers through Agricultural Extension Technicians. This paper reviews the approaches currently being practised by NDAPP to improve the number and quality of trained draught animals through increased use of farmer trainers.*

### Introduction

The Namibian Draft Animal Power Programme (NDAPP) was established in 1996. The main aim of the NDAPP is to promote improved animal draught power technologies in soil cultivation, weeding, transport, implement repair and maintenance. To accomplish this aim, training of both farmers and animals has been the core component of the programme especially in its initial years.

NDAPP is designed to work through the training, extension and research directorates of the Ministry of Agriculture, Water and Rural Development (MAWRD). The programme based at Mashare Agricultural Development Institute (MADI) is executed by a national co-ordinator assisted by regional co-ordinators in all six regions. The MADI team trains Agricultural Extension Technicians (AETs) under the directorate of training. AETs are the regional co-ordinators under the directorate of Extension and Engineering Services. Together they form a draught animal power (DAP) programme training team. Normally trainers from the regions spend at least six weeks at MADI training AETs. Each trainer is allocated with topics that he/she is expected to conduct in both theory and practical. The basic DAP course, three week course, is portioned into 70% practical and 30% theory. While the theory part is sometimes conducted by the MADI staff, all trainers are used for practical. This has a big advantage especially when it comes to close supervision of the trainees. For the 16 trainees (the usual intake per session), there are normally five to six trainers to assist them. The practicals are highly valued because this is where the trainee confidence is

gained and most AETs have appreciated this approach citing that the trainers presence assures trainees of immediate correction of any mistakes made.

Most of the AETs from the regions that attended the six weeks course at MADI have already had formal animal traction training from agricultural colleges within the country as part of the Agricultural Engineering curriculum, Which runs for 10 weeks. This programme at the college level started in 1995 and to date, 82 students have undergone this training. However, formal training at college level alone is not sufficient as there are many other aspects within DAP that those employed as AETs need to know and In-service training plays a major role in addressing this need.

In the past two and half years 76 extension technicians have attended a three-week basic DAP course. In collaboration with the regional DAP co-ordinators farmer training sessions were conducted in the region by trained AETs. More than 600 farmers and 300 draught animals were trained in these sessions.

### Training of agricultural extension technicians

Draught animal power training in the Northern Communal Areas (NCA) is compulsory to AETs who do not have any previous training in animal traction. Before 1995 almost all AETs lacked sufficient knowledge and skills to service farmers in draught animal power technologies, because little attention at the local agricultural colleges was paid to DAP, which could have helped meet the needs of small-

scale farmers in the country. Existing mechanisation programmes at the colleges at the time focused more on tractor based technology, which was also commercially oriented. There was thus a need to reverse this trend.

AETs from all the six regions of the NCA attend three week based DAP courses at MADI. The course is structured to cover the major areas of mechanization with animal power. These include: -

- ◆ Animal traction as a mechanisation power source
- ◆ Selection and training of draught animals
- ◆ Health care
- ◆ Harnesses and harnessing
- ◆ Feeding of draught animals
- ◆ Animal drawn implements
- ◆ Planning and conducting demonstrations and trials

The training of draught animals covers more than 40% (mainly practical) of the total time allocated, because this is crucial as it forms the main part of farmer training. During training each AET selects an untrained animal, trains it and practices all other activities wherever required with the trained animal. The course offers general principles of DAP technology in relation to environment pertaining to situations similar to that of Namibia particularly the northern communal areas.

### **Farmer training in animal traction**

It has been discovered that although farmers do train their animals, the application of the technology has made their training insufficient. Animals are normally trained to pull ploughs, sledges and carts. Tasks such as weeding, ridging and harrowing are not considered. Apart from the farmers training on draught animals, there are also major concerns particularly on abuse of work animals, poor health care, poor selection and lack of knowledge in the adjustment and maintenance of the implements. Most farmers have acknowledged the need to apply DAP in operations especially in weeding, where significant losses of crops have been observed due to late or incomplete weeding of the fields. On the other hand selection appears to be so crucial for some farmers because they do not have enough animals to select from. Through experience some farmers know the type of animals that will perform well as draught animals.

The trained AETs re group in their regions in teams of two to three members and train farmers according to their (farmers') needs. Depending on the training needs of the farmers a basic DAP course lasting 15 training days or a weeding course for five training days is arranged. On average 20 farmers are trained per session. Farmers selected are those who have

access to draught animals. The major topics for farmer training have been selection of draught animals, training of draught animals, health care, implement adjustment and maintenance, cattle and donkey harness making, planting in lines, weeding and supplementary feeding.

Farmer training takes place in the farming localities. A central field is selected in collaboration with farmers where animals to be trained are brought. Animals usually trained are cattle and donkeys. Although both male and female donkeys can easily be seen at the training grounds no cows or heifers have been noticed or reported during these sessions. This could partially confirm the belief that "if female animals are used" they will lose their productivity. For this reason farmers do not attempt to train them. It is however possible to find cows in the working teams pulling ploughs or carts. Farmers who use cows say they do so because they do not have oxen and that as soon as oxen are available they will stop using cows for draught purposes.

### **Farmer to farmer training**

Some farmers have been training draught animals without any external support. Their training skills were acquired from their parents and other relatives. These farmers (trainers) have established themselves in their communities and are respected for the job they do. In many cases they use already trained animals to train untrained animals. Most of these trainers apply very harsh training methods and subject animals to a lot of beating compared to the MADI training approach of word command. Though animals are trained in a far shorter period (three to seven) days compared to the NDAPP recommendations (21-28 days) there are several practices that need improvement and most of the "traditional trainers" exposed to the NDAPP training methods have acknowledged the need to change towards the NDAPP approach. NDAPP in collaboration with other stakeholders have initiated a training of trainers' course for farmers and 45 farmers have already been trained. Some of these farmers were nominated by communities they lived in, based on skill, commitment and willingness to participate in the training.

Using farmers as trainers has proved to be very effective. When farmers are used as trainers they stand a chance of doing better than technicians because they know the audience language better and use expressions that suit their environment. They also instill some confidence in their fellow farmers as they demonstrate (as the farmers themselves have managed) how it is done. Given proper incentives such as training allowances, implements and other materials, farmers could be more productive. This was evident during the Caprivi region farmer training

period of 1998 (Oct - Dec) where 'farmer trainers' trained 40% more farmers compared to AETs

### **Organisation and financing**

The training of AETs at MADI is financed by the Ministry of Agriculture while that of farmers receives inputs from donor supported projects. MAWRD and sometimes from farmers themselves and Farmers Unions.

Materials for farmers training are mostly supplied by the farmers themselves e.g. harnesses, yokes, ploughs and carts. Sometimes separators for donkeys and weeding yokes for cattle may be supplied by the technicians. Financial assistance has come from local NGOs, NDAPP, Rural Development Support Programme, Northern Regions Livestock Development Programme (NODILEP), Northern Namibia Rural Development Project (NNRDP) and Dan Church Aid. These organisations sometimes provide animal feeds and farmers food during training. They also purchase implements for training purposes only. It is important to note that farmers provide their own animals for training.

### **Gender**

There have been no deliberate efforts to include female AETs for training because the Ministry of Agricultural Water and Rural Development strategy has been to train all AETs in the northern communal areas. Hence the course could be viewed as "compulsory". Selection of participants is merely a programme by regional officials where AETs are put on annual training programme. In some sessions some regions send more female participants than their male counterparts. However, generally less than 30% female participants are trained in all AET sessions at MADI. This reflects the proportions of males and females who are AETs in the northern communal areas.

From the past training sessions, the participation of both female and male AETs has also provided a chance for the programme to perceive the way both parties would behave when training farmers in their regions.

Interesting lessons have been noted especially during the selection of animals to be trained. 75% of the female AET trainees rush for donkeys as animals they are going to handle during training. Initial impressions

for this trend are that donkeys are smaller and easier to work with. However as training proceeds with other few female trainees handling the cattle, the trainees with donkeys start gaining confidence in trying the cattle as well. At the end of the course all trainees appear comfortable in handling both donkeys

and cattle. There seems to be no problem with the handling and use of implements.

Similar trends have also been reported during farmer training sessions. Therefore it could be concluded that where smaller animals, mules and donkeys are available and women are being trained some farmers should be encouraged to bring these animals for training. It would be a stepping stone for women to handle bigger animals such as cattle, horses and buffaloes.

### **Review of AET training materials**

After running AET and farmer training session for two and a half years a review of training manuals was conducted to find out from both farmers and AETs how successful their respective training courses were. The review checked the relevance and appropriateness of the material contents. At the end of a five day meeting there were several suggestions to improve manuals. Below are some suggestions

#### ***Selection of draught animals***

Use of female animals, particularly in cattle should be taken very cautiously when training farmers because this does not always augur well with traditional norms. However, AETs should be trained and made aware of this option.

It was accepted that the two to three years is a good selection age, but draught animals can be selected for training from one and a half years depending on the breed and other prevailing local conditions.

#### ***Health and care of draught animals***

Traditional health care treatments should be considered in training both farmers and AETs. Proven working treatment such as the bark of the Omupopola tree and pounded tobacco leaves are some examples of treating internal and external parasites in donkeys.

There was no evidence of scientific explanation to these claims. Research to verify these claims has been suggested to be undertaken and linked with the National Botanical Research Institute.

Other areas of interest for investigation could include:

#### **Method/treatment**

- ◆ Hot iron: - wounds/open sores
- ◆ Cow dung: - open sores/wounds
- ◆ Ash: - open sores/wounds
- ◆ Fresh cow pea leaves: - open sores/wounds
- ◆ Edimba shrub (species venomia): - foot rot

Grooming of donkeys. This is not well accepted as donkeys have a habit of rolling on the ground and this practice results in the grooming of donkeys being considered as time wasting.

### ***Harnesses***

Triple and four neck yokes should be included for the training of both farmers and AETs. These yokes are already very popular with some farmers in Namibia.

### ***Implements***

Wheels. Include skids as a method of replacing animal drawn implements especially when working in sand soils.

### ***Training of animals***

Farmers claim to train animal to pull implements and work in three to seven days. Methods by the DAP Programme would take at least 21 days. Although some farmers' methods appear to be harsh, some are effective and could be included in the training of both farmers and technicians.

### **Lessons and conclusions**

Farmer training is a very important part of the technology transfer and without it, change to new practices will be very slow. Even though other factors such as improved markets for crops, subsidies, access to affordable loans and availability of both animals and implement equally play an important role training still remains a central organ of draught animal power technology. When farmers are trained they become confident and are willing to try new ideas.

For example women who initially tend to think that they can only handle donkeys and not big animals

such as oxen apply themselves well to these animals (oxen) after training. Many farmers mistreat their animals during training because they have not been exposed to other friendly training methods. Whips are no longer being used when farmers become aware of word command techniques, both farmers and draught animals start working as a team and begin to understand each other well. Animals are given supplementary feed and rested when tired.

With training, farmers change their farming systems to suit the application of techniques such as weeding with cultivators. They start planting in straight lines and their weeding become easier and faster

From the NDAPP training experience, farmers are willing to contribute towards training costs if their needs are properly identified. They can pay their food and feed for their animals during training. Farmers also provide some implements, yokes, carts and harnesses for training.

While farmers appreciate the new techniques in animal traction they still want some of their practices particularly on traditional treatment of their animals to be considered. They also want some of the modifications they suggest on implements especially the wheels to be made. Many farmers replace the wheels with wooden skids to reduce implement instability and noise. This is very common with farmers working in sandy soils.

Farmer to farmer training is very effective when the right "farmer trainers" are well trained. These trainers are able to convince their fellow farmers much more easily than AETs, because they are farmers themselves. Their trainees become convinced that if they (farmer trainers) can do it then the trainee farmers should be able to do it as well.