

Animal draft power training in Zimbabwe: experiences and future challenges

by

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Abstract

Training of draft animals is of paramount importance because it ensures efficient use of their potential draft capacity. This is only possible if the people training the animals are also properly trained.

Training programmes used in Zimbabwe should be reviewed, seeking opinions of all target groups and incorporating experiences from other countries. There is also a need to find ways of ensuring that more women receive this training.

Participants are assessed before they take a course to establish their knowledge base, and soon after training to find out how much they have gained. Continuous follow-up evaluation of the training programmes must be reinforced on-farm, even well after completion of courses, to establish adoption levels. However, this proposed programme is likely to be expensive, and probably unsustainable as well.

Introduction

More than 85% of the 1–1.2 million communal (smallholder) farming households in Zimbabwe use animal draft power in agricultural production (Francis and Mudamburi, in press). This power is mainly provided by oxen, although use of cows and donkeys is increasing.

Many of these animals are used for draft without having proper training. Some animals are put to work before they are mature enough to carry out such tasks (Francis, 1993). They are also poorly fed. Yet, temperament, physical development, training and feeding management are principal determinants of draft capacity.

This paper presents a summary of animal draft power training courses offered by the national Institute of Agricultural Engineering (IAE). A critical analysis of the current training programmes is also provided.

Animal draft power training in Zimbabwe

Historical perspective

Animal draft power training in Zimbabwe was launched as small-scale mechanisation at Domboshawa Farm Machinery Training Centre, near Salisbury (now Harare) in 1964. Training was done through on-station and on-farm courses and mobile training units. In 1983, with financial assistance of the German Agency for Technical Cooperation (GTZ), the training centre was moved to the IAE. The main reason for this change was to have agricultural training and research close to each other so that there could be better flow of research findings into training and extension.

Main elements of training courses

The overall objective of animal draft power training in Zimbabwe is to provide hands-on experience and instruction on efficient use of draft animals, animal-drawn and hand-operated machinery and equipment. Table 1 summarises the contents of the training courses offered at the IAE.

The main target group for these courses is extension staff. Training is also offered to:

- farmers, but only if they will train others later;
- knowledge on animal draft power training would then be transferred through horizontal farmer–farmer interaction
- agricultural teachers and instructors from agricultural institutes and colleges
- sales representatives from manufacturing companies
- agriculturalists from Eastern and Southern Africa
- any other needy animal draft power users.

Table 1: Main elements of animal draft power training courses offered at the Institute of Agricultural Engineering, Zimbabwe

<i>Course code</i>	<i>Course content</i>
AP 1	Selection, care and training of draft animals Selection criteria and procedure; feeding and health care; training procedures
AP 2	Plowing with draft animals Parts, operations and maintenance of the single furrow mouldboard plow; plowing systems
AP 3	Seedbed preparation and crop establishment Equipment used, including planters
AP 4	Crop maintenance Hand hoes, knapsack sprayers and ultra-low-volume sprayers, mist blowers
AP 5	Harvesting and processing equipment Hand-operated shellers and winnowers; animal-drawn groundnut lifters, cutter bar mowers and carts
AP 6	Donkeys in Zimbabwean agricultural production Selection, management and training
Regional animal draft power courses	All courses listed above, including yoke and donkey harness making

Future challenges for animal draft power training in Zimbabwe

Assessing training needs

Proper training of draft animals and animal draft power users is important, as evidenced by the current inefficient use of draft animals and related farm equipment by many farmers. To ensure that appropriate training is provided, appropriate solutions to several challenges should be found. The impact of current training programmes should be assessed. This implies that thorough follow-up studies should be conducted in areas where farmers and agricultural extensionists have been trained, to establish the levels of adoption of the IAE training programmes. The assessment should provide answers to such questions as:

have farmers and other target groups modified the training programmes?

if so, what has been altered and why?

Where there has been poor adoption, it is important to discover the reasons for this. After this assessment, the training programmes should then be modified such that they meet the needs of all the different target groups. Training manuals would then be developed based on these findings. Even though this approach holds a lot of promise in meeting the needs of all target animal draft power trainees, it appears to be very expensive.

Involvement of manufacturers and farmer organisations in training

Manufacturers of animal draft power equipment and machinery do not supply brochures on how to calibrate and use the numerous implements they produce. For this reason, they should be more actively involved in training participants during development and evaluation of animal draft power courses.

Farmers are recruited for animal draft power training courses by extension workers in the field. The extension workers also keep a record of farmers who receive this training. It is doubtful if this is an effective approach.

Farmers' organisations, such as the Zimbabwe Farmers Union, have not been used as effective communication channels between farmers, researchers and animal draft power trainers. There is great potential for strengthening the training programmes through close collaboration with such organisations. In addition, experiences of other countries in training should be sought and used to improve training programmes in the country. One forum where such ideas could be tapped would be meetings of ATNESA (the Animal Traction Network for Eastern and Southern Africa) or other regional networks.

For details of ATNESA and how to obtain this publication see <http://www.atnesa.org>

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Table 2: Division of labour between men and women in African agriculture

<i>Task</i>	<i>Level of participation (%)</i>	
	<i>Men</i>	<i>Women</i>
Land preparation	95	5
Crop planting	30	70
Weeding	20	80
Harvesting	30	70
Processing	10	90
Transporting harvested crops to homestead	20	80
Storing crops	5	95
Marketing surplus	40	60
Caring for domestic animals	40	60
Collecting water and fuel	10	90
Feeding and caring for the family	5	95

Source: Mwoyowehama (1995)

Gender considerations

Although many women are involved in agriculture (see Table 2), they rarely attend training courses. The reasons for this non-participation should be sought, so that ways can be found to ensure that they receive training. In Zimbabwe, for example, farmers attend animal draft power courses free of charge. It is possible that because women are always faced with heavy agricultural workloads and family responsibilities, they cannot be away from their homes for such long periods as one to six weeks (duration of IAE training courses). In fact, the training centre is situated inappropriately in the capital city. If it had been located in a smallholder farming area (close to farmers), more women farmers would probably be able to attend the courses offered. However, only one national training centre located in a rural area would not adequately cater for all women farmers. Establishment of sub-training centres would be a better alternative.

Agricultural education

The overemphasis of agricultural syllabuses used in educational institutions on tractor power (but

not on animal draft power) tends to perpetuate the commonly held view in the country that animal draft power technology is backward. Almost 90% of people use this source of power, so there is need for a revolutionary approach towards developing more realistic curricula. This radical shift should start with making agriculture a compulsory subject from as early as primary school level. Syllabuses at colleges and universities should then be revamped to correct the imbalance between teaching tractor power and animal draft power, in favour of the latter.

References

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