

Training and extension for animal traction and animal-powered weeding in Zambia

by

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Abstract

Proper training and extension methodologies for animal power are a prerequisite for increasing productivity of both staple and cash crops for small-scale farmers. Until recently, Zambian extension workers received little or no training in animal traction technologies and there was little extension material specific to animal traction. Furthermore, few weeding implements were available, and extension workers had not been trained how to demonstrate their use.

The Palabana Animal Draught Power Development Programme was established to address these issues. The programme has incorporated training, extension, research and development, advisory and support services in its efforts to promote and disseminate animal traction technologies nationwide. Weeding with animal power is an area of emphasis.

Introduction

Animal traction in Zambia has been mainly limited to land preparation by plowing, and transport using sledges and ox carts. This is the case even where there has been a long tradition of draft animal use (Starkey et al, 1991). Constraints to the use of animal power are diverse, and include cattle diseases and inadequate veterinary services, lack of implements and spares and lack of information at farmer level (limited extension input).

In Zambia, training and extension methodologies for agricultural field staff, have not changed for many years. However, there have been important changes in the needs and circumstances the training and extension should address. The use of animal traction is a relatively new practice for small- and medium-scale farmers in most regions of Zambia. It has recently been acknowledged as the only viable and sustainable form of

mechanisation that would enable small-scale farmers to increase their cultivated area and agricultural production (Bwalya et al, 1991).

Training and extension

The Palabana Animal Draught Power Development Programme (subsequently referred to as Palabana) has a mandate to look at training for, and dissemination of, all aspects of animal traction, with the aim of promoting its use for field operations (Stevens and Wanders, 1993).

Training is achieved by offering regular one- to four-week courses to extension staff directly involved in agricultural development at the farmer level. Courses contain modules on different subjects and emphasis is placed according to training needs (area specific), weed control being prominent. Standard course materials (manuals, video tapes, etc) have been prepared and are continually being improved. Courses are designed to improve practical skills and awareness and knowledge on draft animal management, implement designs and use and agro-economic aspects. Agricultural training institutions have also been assisted in training their own teachers and with training aids (implements, manuals and books).

Follow-up assistance includes a monitoring system for past trainees' needs, performance and participation. This should facilitate the setting of future priorities for training and subsequent support of trainees. A biannual newsletter also provides information about ongoing regional programmes and a platform for exchange of information.

One topic given special consideration is the use of animal traction by women. Experience has shown that gender issues need to be addressed with regard to animal traction for weed control as almost all weeding is currently carried out by women. The introduction of animal traction

will influence the reallocation of production factors especially where labour is concerned, thus having socioeconomic implications which need to be studied carefully.

On-farm demonstrations and trials

The on-farm programme is organised throughout the country in close cooperation with local extension staff. The aim is to promote proven and practical technologies and complementary implements through on-farm adaptive trials. Demonstrations on weeding technology using cultivators and ridgers have received high priority in this programme. This is because of a general concern to improve labour productivity and to reduce the burden on women of the tedious task of hand weeding. These demonstrations are conducted by local extension staff who have received training from Palabana but without close involvement of Palabana. However, the staff receive material, technical and/or financial support as needed. Selection of areas within the region where these demonstrations are held and their organisation is entirely up to local extension staff.

As an indication of the scale of training, in 1993, 2011 farmers (about 20% female) attended 39 weeding demonstrations in 30 locations. At these demonstrations, 360 weeding implements (cultivators and ridgers) were made available to the farmers for sale either in one full payment or on a down-payment basis (contract forms were prepared). Information gathered during evaluation and follow-up visits showed that the performance of the implements (Zimplot cultivator and Lenco ridger) was well appreciated by farmers. However, few implements were sold during that year, due to complex crop marketing policies that delayed farmers receiving money due to them.

Implement-related services

One aim of the development programme is to produce implements that carry out field operations to the farmers' satisfaction. Information from evaluation forms filled out at demonstrations is used to assess the performance and effectiveness of existing weeding implements on a comparative basis. The results are used to select effective implements and develop new designs.

Demand

Plowing is the most common application of animal traction: there are perhaps 120 000 animal-drawn mouldboard plows in use in villages in Zambia, and annual sales of plows are estimated at between 12 000 and 15 000. Other animal-drawn implements are less common: there are about 30 000 ridgers, 20 000 cultivators and 5000 planters in use, and sales of ridgers and cultivators are both estimated to be about 1000 to 2000 each year. The demand for weeding implements is increasing (Helsloot, Sichembe and Chelemu, 1993).

Distribution and sales agents

To tackle the absence of animal-drawn implements, small traders have been supported in areas where on-farm promotions of animal traction have been conducted. This has been done by providing traders with a few sets of implements and spares to sell after weeding demonstrations, introducing them to the idea of improving the implement supply in the area.

Palabana is in liaison with potential importers, manufacturers, distributors, retailers and lending institutions to assess needs and possible courses of action to improve the marketing of animal-drawn implements and accompanying spares. Implement dealers are encouraged to participate in short courses to reinforce their advisory skills on the application of weeders and other animal-drawn implements for dealing directly with their clients.

References

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