

Some factors affecting animal-powered weeding in Uganda

by

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Abstract

Animal traction was introduced in Uganda about 100 years ago. It is still used mainly for land preparation and only rarely for other operations such as weeding. This paper reviews some of the factors which influence the spread of animal-powered weeding in the country, including social and cultural traditions, availability of implements, past and present government policies and access to financial resources.

Introduction

Animal traction was introduced to Uganda in 1909, specifically to boost cotton production, hence its concentration in the cotton-producing areas of the country. In 1920, a national animal traction research centre was opened in Serere Agricultural Research Institute, with the mandate to research, test and demonstrate ox-drawn equipment. The technology spread rapidly in the north and north-east of the country and to some pockets in the west, predominantly cotton-growing areas. Despite this rapid spread, animal traction has been used primarily for land cultivation and rarely for planting, weeding, processing or transport. Weeding in Uganda is still mainly done with the hand hoe, usually by women.

Factors influencing the spread of animal-powered weeding

Gender and social factors

In some communities a man's social status is determined by the number of animals, wives and children he has. These provide readily

available cheap labour, so the need to adopt technologies to alleviate labour shortages has not been a priority. In some areas men control productive resources and direct resource allocation. The division of labour at family level often aligns the husband with primary tillage. Subsequent farm operations—planting, weeding and processing—are left to women, and men do not normally allocate resources to develop new techniques in these areas.

Cultural values and beliefs can hinder the development of animal-powered weeding. For example, pastoralists have prejudices against working animals, and in some societies people are scared of handling animals. There is a reluctance to use female animals due to their milking value. Cows could be handled by women for weeding operations.

Implements

Various weeders have been imported into Uganda for testing at Serere Research Station and sale to farmers, as shown in Table 1.

During the early 1970s, appreciation of the shortcomings of imported equipment for Ugandan conditions led to the development of the *Kabonyolo* ox-drawn tool frame, a multipurpose unit with attachments for weeding. Further research was interrupted by political instability in the country.

To use draft animal power for weeding, crops should be planted in rows. Row planting was not a traditional practice in Uganda and so seeders have been developed. Work at the Makerere University Engineering Department, Namalere Agricultural Mechanisation Division and Sorote Ox Unit led to the development of

Table 1: Some weeders evaluated in Uganda

<i>Type of weeder/cultivator</i>	<i>Source/year</i>	<i>Remarks</i>
Safim and Nahon	South Africa, 1945	Satisfactory performance. Durable and cheap but imports ceased due to trade embargo
Planet Junior Cultivator	USA, 1960	Efficient. Many bought by farmers but had problems of maintenance and spares
Tenga (reversible) cultivator	Kenya, 1964	Proved inefficient and was not well adopted

the *AH* and the *Goru* seeder from the British *Bental* seeder. These seeders can be attached to the *Kabonyolo* tool frame, and also to a bicycle push frame developed at Serere. Makerere's Agricultural Engineering Department has tested an injector type of planter. However, these efforts have not been supported by the local manufacturing industry and the implements have remained on the research stations.

Government policy

In the early 1960s, government policy favoured tractorisation over oxenisation. Tractor hire schemes were established. However, escalating fuel prices, lack of supplies of spares, lack of training and management problems indicated that tractors were not likely to be a sustainable technology for smallholder farmers in Uganda. By 1990, about two-thirds of the 3000 tractors in the country were non-operational. The tractorisation policy had a negative impact on the development of animal traction. However, government policy is now geared towards the integration of animal power and tractors, with more emphasis on oxenisation.

Distribution of animals

Smallholders and pastoralists own more than 90% of the national cattle herd. There are three predominant cattle breeds: short-horned Zebu are concentrated in the north and north-east, and the long-horned Sanga (Ankole) and the Ganda in the central region. The short-horned Zebu is the best adapted to work and it is in the north and north-east where animal traction is best developed.

Availability of capital and credit schemes

Smallholders in Uganda have few financial resources to procure equipment such as weeders. Resources are also unavailable to stimulate the local manufacturing. Credit is therefore an essential part of government efforts to stimulate production. Several smallholder credit schemes have been developed.

The rural farmers scheme was introduced by the Uganda Commercial Bank in 1987. This credit was for farmers procuring inputs stocked and sold through the branches of the Uganda Commercial Bank. Borrowers had to be full-time farmers, with priority given to women. Collateral was not required. The bank relied on the character of borrowers and close supervision by its specialised staff. Problems included delays in processing loan applications, the weakness of the bank as a procurement agency (the only animal traction implements

procured were ox plows) and poor loan recovery due to lack of supervisory staff.

The cooperative credit scheme was initiated by the Cooperative Bank in 1961, to extend production loans through cooperative unions to primary societies for lending on to members. Recovery performance was good at 95%. Inputs were mainly procured by central cooperative unions. Some seeders were procured under this arrangement, but few were sold to farmers. This scheme came to a halt when the Cooperative Bank became insolvent.

The agricultural development pilot credit scheme was set up in 1992 by the Ministry of Agriculture. Borrowers had to be members of a cooperative or other registered group. Loans were for agricultural inputs and borrowers had to open savings accounts.

The International Fund for Agricultural Development (IFAD) set up a credit scheme under the smallholder cotton rehabilitation project. The loans could be used for the procurement of draft oxen, heifers, breeding bulls, ox-drawn equipment and other inputs.

Problems of loan recovery have arisen when farmers have associated credit with government handouts. Money recovered is not always paid into the bank. Good organisation and logistics are necessary in a well organised credit scheme.

Topography

Hilly areas, especially in western parts of the country, make weeding using animal power difficult, particularly when the animal has to walk along slopes and over stony ground.

The farming systems

The spread of animal draft power technology, and ox-drawn weeding is closely linked with the farming system. It has not been adopted in the central and southern regions which predominantly have the coffee and banana perennial farming systems where woody vegetation makes animal traction difficult.

Conclusion

The promotion of animal-powered weeding requires the evaluation of its profitability and applicability in the farming system with the participation of women who are primarily concerned with this operation. The role of women in family resource allocation should be reviewed and suitable African credit systems (not necessarily requiring collateral) should be formulated and tested.