

Transfer of Animal Traction Technology in Mbozi, Tanzania. The case of «Agricultural Development Programme-Mbozi».

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Summary

The Agricultural Development Programme (ADP) is an integrated agricultural project in Mbozi District covering some 90 villages with the aim to increase food production of smallholder farmers in a sustainable way.

After having gained enough experience, a proper ox-mechanization policy was worked out.

At the end of 1991, the project started an experiment with a womengroup in a very isolated area engaged in maize grinding using an ox-driven maize-mill.

Résumé

Le programme de développement agricole de Mbozi couvre 90 villages et a pour but de développer la production alimentaire chez le petit producteur par une agriculture intégrée.

Dans ce but, la mécanisation avec traction bovine a été introduite, en fonction des possibilités d'absorption par la population ainsi que des ressources disponibles en vulgarisation et en appui.

Fin 1991, un essai a débuté avec un groupe de femmes chez qui un moulin à maïs animé par des bœufs a été installé.

Introduction

The present paper is a synthesis of communications presented at the international seminars in Lusaka-Zambia in January 1991, and in April 1991 in Rwanda.

It describes the situation and the results achieved so far by the team involved in a joint project of the Non Governmental Organization CCOPIBO (Association for Development Cooperation), the District of Mbozi and CDTF (Community Development Trust Fund) with the financial assistance of the Belgian Administration for Development Cooperation, the «Nationaal Centrum voor Ontwikkelingssamenwerking» and the NGO «Broederlijk Delen».

The Agricultural Development Programme (ADP) Mbozi is an integrated agricultural project in Mbozi District, Tanzania, which started in 1986 and is presently covering some 90 villages.

The aim of the project is to assist smallholder farmers in their efforts to increase food production in a sustainable way.

For that purpose, strong emphasis is given to Resource Efficient Agricultural methods (also called Low External Input Agriculture).

The integrated approach involves not only agricultural extension, but also inputs and implements are supplied up to village level and certain services are provided on Divisional level.

Research conducted in 1986/87 revealed that the two main problems in agriculture were decreasing soil fertility and a labour shortage at specific periods in the year (at planting and the following weeding time and at harvesting time) due to the fact that most farmers grow maize and — twice a season — beans as well as some coffee. Over half of the farm

households own cattle, in spite of their low economic return. Cattle indeed have a high social and cultural value and are seen as a security for unexpected expenditures.

Based on these findings, a proper ox-mechanization policy was worked out, containing the following elements:

- a. The role of ox-mechanization is defined in relation to all aspects of soil fertility:
 - transport of organic matter to the fields,
 - incorporation of organic matter under ridges,
 - use of improved Farm Yard Manure (stored in pit or heap) and compost.
- b. The role of ox-mechanization is defined in relation to labour constraints, land availability and improvement of crop husbandries, with emphasis on:
 - the timely and proper soil preparation which includes ploughing before the rains (either after the harvest or just before the onset of the rains), harrowing twice (once to prepare a seedbed for the weeds and the second time to kill the germinated seeds and prepare the seedbed for the maize), planting with a plough or a cultivator,
 - the advantage of planting on ridges, as the incorporation of organic matter leads to higher yields, and
 - the importance of weeding, as poor weeding is found to be the biggest constraint of increased maize yields in the Southern Highlands of Tanzania. Only mechanized weeding can provide a solution, given the earlier mentioned labour shortage.
- c. In all steps the role of women is taken into account. They should benefit foremost from the eventually realized reduction of workload as they are the main actors in food production.

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- d. Ox-mechanization and animal health care are taken up as topics in the general agricultural courses for link farmers and extension workers.

In the initial years ox-mechanization had not been given priority, as it is clear that only medium and bigger farmers can afford it. A herd of 5 cattle is a minimum number (in order to be able to have 2 bulls) and cash is needed to buy the implements.

Still, in the period from 1987-1991, the project has managed to sell appr. 100 oxcarts, 250 ploughs and a few cultivators and ridgers, despite the fact that in the first year, availability of the implements was a major bottleneck.

In the last 3 years 3-days seminars on ox-mechanization were held at the Farm Service Centre for 18 villages in which 450 linkfarmers were trained in the basic skills of ox-mechani-

zation. In the last 2 years an agreement was made with 11 villages and ox-mechanization committees were trained in their villages in the more advanced skills (appr. 55 people).

After all potential villages have been trained, expansion can only come through reducing the risks of cattle growing. The project has not yet entered this difficult field (difficult because supply of medicines in the country is insufficient, dipping is extremely difficult to organize, etc...).

At the end of 1991, the project started an experiment with a women's group in a very isolated area engaged in maize grinding using an ox-driven maize-mill.

A pair of oxen and a pair of donkeys were trained for the grinding job. The machine is producing 15 kg of flour an hour. The project is now working on training the women in management and further examines how to improve the machine's efficiency.

Samenvatting: Het landbouwontwikkelingsprogramma Mbozi bestrijkt zowat 90 dorpen en heeft als hoofddoel de kleine boer te begeleiden in zijn experimenten om te komen tot een geïntegreerde landbouw.

Dierlijke tractie werd weerhouden als een belangrijk aandachtspunt voor een beter rendement in de landbouw.

Naast grondbewerking en transport werd eind 1991 ook een experiment gedaan met een osaangedreven maismolen in een vrouwengroep.

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