

A note on animal draft power in Kabwe Smallholder Development Project, Central Province, Zambia

by

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Abstract

The Kabwe Smallholder Development Project in Central Province, Zambia, has been set up to help increase food security, production, level of income and the general standard of living of small farmers. The project has organised farmers into groups, mobilised and extended extension services, encouraged animal traction and livestock development, and studied ways of improving rainfed agriculture. The main economic activities of people in the project area include farming, fishing, charcoal burning, and local shops and services. The use of animal draft power is widespread throughout the project area, and is increasing slowly; animals are used for many agricultural operations, and for transport. Some of the functions of the project are to provide loans for the purchase of animal-drawn implements, to test implements and to demonstrate and promote animal traction in agriculture through plowing contests.

Introduction

Much has been said about the vital role animal draft power plays in the development process of the rural sector in Zambia and abroad. There is overwhelming evidence that animal traction will go a long way toward alleviating the problems that small-scale farmers experience in tillage, crop establishment, on-farm transport and even public transport in remote areas.

Successful promotion of animal draft power depends on several factors including the availability of land, animals, veterinary services and appropriate credit. It also depends on local culture, environmental conditions, producer price/cost ratio, the skill of rural blacksmiths and the competence of extension services. Most important of all, whatever resources and services might be available, the success of animal traction technology will largely depend on whether the farmer *wants* to adopt, *is able* to adopt and *knows how* to adopt the technology.

Kabwe Smallholder Development Project (KSDP) covers an area which includes both Kabwe Rural District (Kabwe South District) and the whole of Kapirimposhi (Kabwe North District) in the Central Province of Zambia. This project involves around

35 000 smallholder farming families living in an area of 35 000 km².

The overall goal of KSDP is to contribute towards increasing the food security and production of small-scale and emergent farmers. This will improve the self-sufficiency, level of income and general standard of living of smallholder farmers in the intervention area, and will contribute toward improving national food security.

To realise this goal this project has:

- organised smallholders into groups
- mobilised and motivated district extension services
- extended extension services to cover information on inputs, marketing and credit
- provided advice to the District Veterinary Services
- encouraged animal traction and livestock development
- investigated improvements to local rainfed farming systems
- developed a monitoring and evaluation system.

This paper deals specifically with what KSDP is doing in the project area in relation to animal draft power.

Village economic systems in the project area

The geographical position and environment of an area greatly determine the social and economic activities of the village community. The principal economic activities of people in the KSDP area include farming, fishing, charcoal burning, village commerce (shops) and local services (eg, grinding mills). Fishing is common around lakes and rivers, such as the Lukanga swamps, the Kafue River and the Mulungushi dams. Fishing provides households with a small income, depending on available family labour and the proximity of a fishing area. Charcoal burning can produce a steady income depending on proximity to roads and the availability of transport to take the charcoal to urban centres. Small village

shops are common; they sell basic items such as paraffin, candles, matches, clothing and spare parts for bicycles. Sugar, salt and cooking oil are rare commodities. Some villagers have grinding mills, but constant breakdowns and lack of space are common problems. Hunting and the collection of wild fruits and mushrooms from the bush allow poorer families to raise some income.

Farming plays a major role in the village economies. Most villagers view farming primarily as a source of food for the family. Traditional farmers either sell surplus agricultural produce or exchange it for family necessities. Small-scale and emergent farmers are starting to undertake commercial production on a larger scale.

Role of animal draft power

The use of animal draft power is widespread throughout the project area and is increasing slowly.

Oxen are the main draft animals but a few farmers use cows and donkeys for draft purposes. Animal draft power is used to a varying extent for land tillage (plowing), seedbed preparation (harrowing), crop establishment (planting), secondary cultivation (weeding and ridging) and transport (farm inputs and outputs, fire wood, water, etc). Animal power can play a major role in all these operations, helping to alleviate human labour constraints.

One major constraint among smallholders in the KSDP area has been that of transport. Draft animals are used to pull ox carts in almost all the villages. Ox carts provide transport for all village economic activities: for example, traffic on the Lenje road consists mainly of ox carts loaded with charcoal, agricultural produce, fish and the villagers themselves. Most villagers hire ox carts to take their produce to town markets or to the main roads.

Public transport is rarely available and ox carts give the villagers an alternative means of transport, even though travel is very slow and it may take days to reach a destination.

KSDP animal traction programme

In order to develop animal traction in the area, KSDP provides loans for the purchase of animal-drawn implements, undertakes trials of animal traction implements and holds plowing competitions.

The programme of trials is carried out in association with the Magoye Animal Draft Power Research and Development Programme and the Palabana Animal Draft Power Training Programme. The plowing contests are held annually with the main aim of demonstrating, through farmer competitions, the importance of plow setting and handling. They also serve to demonstrate new or more systematic soil tillage techniques.

The project identified lack of transport and tillage implements as particularly acute problems facing smallholders in the area. While farmers have access to other lending institutions, these provide seasonal loans for inputs like seeds, fertilisers and hire of labour. The project therefore aims to provide medium-term credit to smallholders for the purchase of animal power equipment and ox carts. The project's loan scheme is administered through the Zambia Cooperative Federation Finance Service Department (known as ZCF-FS). Also operational in the area is a small pilot loan scheme related to the field cultivation trials. This scheme, run by the Magoye Animal Draft Power Research and Development Programme, provides loans for the different types of cultivators and ridgers being evaluated.