

Draught Animal Utilisation and Research Needs

A number of initiatives relating to the improved use of draught animal power resulting from this survey have had considerable impact on planning of subsequent draught animal research in Zimbabwe and elsewhere.

Background

In Zimbabwe's communal sector, arable plots are small, commonly in the order of two or three hectares. Many but not all farmers own cattle which provide draught animal power (DAP), manure and milk for household consumption. In recent years, the communal cattle herd has approached four million animals and stocking rates are close to or exceeding carrying capacity. Recent droughts are likely to have reduced the herd to nearer three million. Meanwhile, a shortage of DAP is widely recognised as one of the principal constraints to increased crop production in the communal lands. The problem appears to be an imbalance

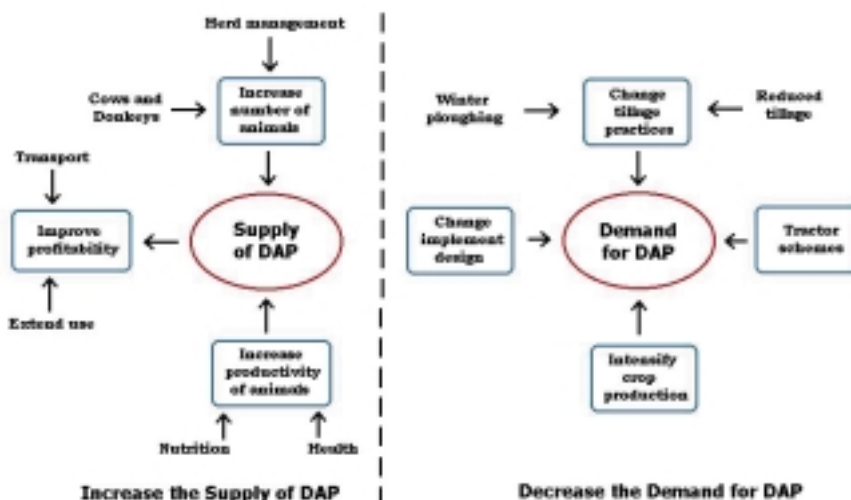
between supply and demand for DAP, which results in reduced crop production.

Research highlights

This study defined the scope for intervention to ameliorate DAP constraints in Zimbabwe, and identified specific, researchable issues that would contribute to that goal, broadly classified under the topics of nutrition, health, use of cows and donkeys and implements and tillage practices.

information on current de-worming practices was limited and that this would need to be reinforced before appropriate interventions could be identified.

Use of cows for draught purposes on the farms was variable. However, most farmers – both users and non-users – were aware of the potential adverse impacts on fertility and milk production associated with the dual-purpose use of breeding cows for DAP.



Opportunities for alleviating draught animal power shortages in Zimbabwe.

Natural Resources Institute
University of Greenwich
Chatham, UK
J.C. Barrett

Centre for Tropical Veterinary
Medicine
University of Edinburgh
Roslin, UK
R.A. Pearson

Silsoe Research Institute
Bedford, UK
D.H. O'Neill

Department of Research and
Specialist Services
Harare, Zimbabwe
P. Nyathi

Agritex
Harare, Zimbabwe
P. Malusalila

Project completed in 1993

Farmers identified the need to make effective use of cereal crop residues for feeding to draught animals. Farmers and extension workers recognised a need to investigate the best way to use such residues. It was concluded that, given the considerable body of information available from other parts of the world, much of the research required would be adaptive.

On health issues, during interviews farmers revealed that their main concerns lay with improving the control of intestinal parasites in their draught animals. It was apparent that

Throughout Zimbabwe, donkeys are regarded as being of increasing importance as sources of animal draught for farming. They are widely preferred for pulling carts and other transport purposes and, in some areas, are used extensively for ploughing and cultivation as well. In the semi-arid areas, donkeys are important as reserve sources of DAP for those years in which cattle are too weak to plough. There was widespread recognition that, in the past, donkeys have been undervalued and given insufficient attention by government institutions. The project identified



Use of a donkey plough team in Zimbabwe.

substantial scope for research on donkeys as draught animals.

Various design and manufacturing deficiencies were recognised among the implements available to communal farmers in Zimbabwe. Most of the implements were inappropriate for the small, local cattle breeds – particularly for the donkey. Furthermore, farmers have limited cash and appear reluctant to invest in expensive equipment that is used for only a short period during each year. A need was identified for evaluating the suitability of cheap, locally available implements for more widespread application, particularly for use with donkeys.

Uptake

This project was essentially a diagnostic study; however, its findings have had quite a wide impact on the planning of future draught animal research in Zimbabwe and elsewhere. In particular, some of the

recommendations, relating to needs for more systematic collection and evaluation of baseline information, have improved the focusing of nationally and internationally funded research on DAP.

Linkages

This diagnostic study was conducted in 1992 and its findings have contributed to a number of initiatives relating to improved DAP use in Zimbabwe. This has included existing work being carried out on Project R5198: Keeping draught animals fit for work, and the design and implementation of new projects – R5926 Improving the productivity of draught animals and R7352: Optimising draught animal power for cropping. Projects R5926 and R7352, in particular, have adopted the multidisciplinary approach highlighted by this study and encompassed management of donkeys and cattle, the development of implements and

the socio-economic contexts in which these are applied. Also, a number of nationally funded projects have built on the findings of this initial work. Furthermore, project findings did much to encourage the production and marketing of a lightweight donkey plough by Zimplot, which was the manufacturer's best-selling plough in 1998.

Relevance to sustainable livelihoods

There are some 800,000 families in the communal sector in Zimbabwe for whom mixed farming is the main economic activity. These farmers tend to be vulnerable to the erosion of physical and natural capital as a result of adverse climatic and other environmental influences. The mixed farming system that these families depend upon is underpinned by DAP for the sustainable management of land. The diversification and improved management of DAP promoted by this project should assist in counteracting these pressures in future.

Selected project publications

- Barrett, J.C., O'Neill, D.H. and Pearson, R.A. (1992) *Strategic Research Needs Relating to Draught Animal Power: A Diagnostic Study in Zimbabwe*. Unpublished Report. Natural Resources Institute, Chatham, UK. 70 pp.

For further information on the Programme contact:
The Programme Manager
Livestock Production Programme
NR International
Park House, Bradbourne Lane
Aylesford, Kent ME20 6SN
<w.richards@nrint.co.uk or lpp@nrint.co.uk
www.nrinternational.co.uk