

Farming with Work Oxen in Sierra Leone

Report by

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WORK OXEN PROJECT

1981

A Development Project of the
Ministry of Agriculture & Forestry
in Co-operation with
Njala University College

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Published by:

SIERRA LEONE WORK OXEN PROJECT

Ministry of Agriculture & Forestry
Tower Hill, Freetown

or

Njala University College
Private Mail Bag, Freetown

1981

Photographs: Paul Starkey

Camera-ready copy (typescript & paste-up): Elisabeth Holt
Printing: Government Printing Department, Freetown

Foreword

In this modern age, technological advancement in land preparation for cropping is often equated with, or measured by, the use of improved tractors and implements; indeed some people may be tempted to pour scorn on the idea of popularising animal traction.

It is not always practicable to effectively employ advanced machinery and tools on all farms, especially in developing countries. Serious limitations such as difficult terrain, high initial and running costs and farmers' lack of experience and training in the application of machinery, often inhibit the acquisition and use of these modern farm tools.

The use of oxen for farm work has been practised in the country, particularly in the north, for many years; indeed ox-ploughing preceded the introduction of schemes to use heavy farm tractors in Sierra Leone. In the face of the present escalating prices of agricultural machinery, implements, fuel and oil, and the slender resources of most of our farmers, it is very timely that we should once again popularise the use of animal traction for agricultural land preparation in suitable areas.

A programme to reactivate the use of work oxen in the agricultural sector appears extremely attractive, for the advantage of work oxen technology include its relative cheapness in running costs, its capacity to be used effectively in confined areas, and its capacity to cope with the acreage that farmers can effectively manage at their present level of knowledge and experience.

It is therefore welcome that the use of work oxen should continue to be investigated, particularly in relation to agricultural land preparation and development, with the aim of training more of our small farmers in the efficient use of animal power for food production.

I wish therefore to recommend this document to all those who are interested in small farmers and their need for appropriate tools and equipment, and to commend the author for marshalling useful information and presenting it in a form that is valuable for our extension workers in their dealings with farmers.

A R SIAFA
Chief Agriculturist

April 1981

Acknowledgments

The Work Oxen Project is a development project of the Ministry of Agriculture & Forestry, and neither this report, nor the investigational work on which it is based, would have been possible without the financial support of the Ministry and the personal support of its senior officers.

Much of the work on which this report is based was carried out at Njala University College and this was only possible through the active support and co-operation of the College Administration and the Departments of Agricultural Engineering, Agricultural Education, Animal Science, Agricultural Economics & Extension and Agronomy.

The author therefore wishes to acknowledge and thank all the individuals from the Ministry of Agriculture & Forestry and from Njala University College who have assisted the Work Oxen Project in so many ways.

The Project has also received vital assistance from the following external agencies:

- The Canadian High Commission who provided the initial funding in 1978. This early grant was crucial in allowing the preliminary work to be undertaken prior to the formal establishment of the Work Oxen Project.
- The British Overseas Development Administration (ODA) which assisted the Project Technical Co-operation Officer (TCO) and also through the provision of 20 sets of ox-equipment for on-farm evaluation. It also arranged for the shipment of a dynamometer, kindly lent by the National Institute of Agricultural Engineering.

- The French Government which, through its Freetown Embassy, supported the Project by providing the services of two Technical Co-operants in succession, based at Njala University College.
- The British Voluntary Service Overseas (VSO) which, through its Freetown Field Office, provided the services of two volunteers based at Tikonko and Musaia.
- The French charity CFCMCF which agreed to assist by supplying a further 10 sets of equipment for on-farm evaluation during 1981.

On a more modest scale, and yet of great importance, have been the sources of information and technical advice which have included GRET, VITA, NIAE, FAO, CEEMAT, CTVM, WCC, NAS and the Commonwealth Secretariat.

The Project is profoundly grateful for the donations, technical assistance and invaluable support given by these external agencies.

Finally, a special tribute must be made to M. Hugues Verhaeghe who, as a French Co-operant, worked with the Project from December 1979 to January 1981. M. Verhaeghe was responsible for supervising the equipment evaluation and experimental trials and a large part of this report, therefore, is based on his work. The author wishes especially to thank him for all his hard work, enthusiasm and dedication which contributed so much to the development of the Work Oxen Project during 1980. M. Verhaeghe was also closely associated with the preparation of this report and was responsible for many of the drawings and for Figs 2.1, 3.15 and 4.10.

P H Starkey

April 1981

Introduction

by Professor J A Kamara
Principal of Njala University College

Ours has become a world of slogans for dealing with vital issues, both at national and international level. Thus we have in recent years witnessed the call for 'the new international order', 'the North-South dialogue' and the development of 'appropriate technology'. These slogans produce considerable debate and activities, with the consequential consumption of considerable resources. In spite of this, the end results have seldom matched the expectations.

However, hope is not always completely lost as in some cases the modest, but genuine and determined actions of a few, make up for the ineffective, but more highly politicised and publicised efforts of others. This report tells of the success story of one of these modest efforts, which is the re-introduction of a vital appropriate technology in agriculture and rural development after its almost total rejection during the last 20-30 years. Apart from a few indubitably wise peasant farmers in the Bombali and Koinadugu Districts, the use of oxen for ploughing has been abandoned in favour of tractors since the 1950s. The error of this action is illustrated by the present raging controversy about the place of the tractor in our agriculture.

Mechanisation has not been a success in Sierra Leone, because of the high component of foreign cost, the poor location and therefore under-utilisation of the machines, poor maintenance and high operation costs per unit of output and the dependence on fossil fuel. In other words, the use of the power tractor is not appropriate for all situations in Sierra Leone. For the peasant farmers, with an

average holding of 4-5 acres, there is little doubt that an alternative technology such as ox-ploughing seems more appropriate. The oxen are readily available and easily trained, the accompanying implements are generally simple and last a lifetime, as evident in the Ransome Victory ploughs bought over 30 years ago and still in use around Karina in Bombali District. These characteristics of availability, simplicity, easy maintenance and usefulness are the hallmarks of an appropriate technology. In taking up the work oxen project, and not only investigating in depth the potential for animal power, but also reactivating wider interest in it, Mr Paul Starkey and his French, British and Sierra Leonean team are doing a great service to the agriculture of this country. However, their enthusiasm and determination would not have been rewarded were it not for the support given by the Ministry of Agriculture & Forestry, the Canadian High Commission, the French Embassy and the British Overseas Development Administration (ODA), and the other donors who generously contributed money and materials to the project. To all of them I add my thanks and appreciation to those already given by Mr Starkey.

The true measure of success of a project is not only its level of attainment, but also how well it can be maintained, improved and permanently integrated into the productive system. It is therefore obvious that more support is needed to establish a local workshop for the manufacture of ox-ploughing tools, to provide credit on easy terms to farmers, and to sustain the research effort and co-ordinating role that Njala University College is providing.

J A Kamara

May 1981