Food, Lands and Livelihoods –



setting research agendas for animal science

British Society of Animal Science Occasional Publication No. 21 Centre Technique de Coopération Agricole et Rurale ACP-UE ______
Technical Centre for Agricultural and Rural Cooperation ACP-EU _____



The Technical Centre for Agricultural and Rural Cooperation (CTA) was established in 1983 under the Lomé Convention between the ACP (African, Caribbean and Pacific) Group of States and the European Union Member States.

CTA's tasks are to develop and provide services that improve access to information for agricultural and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilise information in this area. CTA's programmes are organised around four principal themes: developing information management and partnership strategies needed for policy formulation and implementation; promoting contact and exchange of experience; providing ACP partners with information on demand; and strengthening their information and communication capacities.

CTA, Postbus 380, 6700 AJ Wageningen, The Netherlands

British Society of Animal Science

(formerly British Society of Animal Production)

The British Society of Animal Science aims to provide the opportunity for those with an interest in animals and animal production to exchange views, ideas and information. It is an energetic and active society with about 1300 members from over 30 countries throughout the world. Today, as ever, the Society is the natural meeting point for all those with an interest in animal science. Its membership is drawn from research, education, advisory work, commerce and the practical livestock industry.

The Society organizes a major scientific meeting once a year and occasional specialist meetings on key issues facing animal production. If you would like to join or receive further information about the Society contact: The Secretary, BSAS, PO Box 3, Penicuik, Midlothian EH26 0RZ.

Animal Science

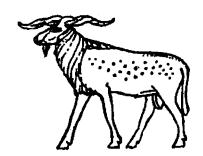
The Society's Journal is Animal Science (formerly Animal Production) which publishes fundamental and applied research and is a major scientific title of international repute. Papers reporting findings from basic and applied research relevant to all aspects of animal science can be found in it.

Animal Science is published six times a year in two volumes. Annual subscription is £190.00 (or \$340.00 in the USA and Canada) and the price for a single part is £30.00 (or \$57.00) net.

Information regarding subscriptions and sales (current and back numbers of the Journal and the Proceedings) can be obtained from: BSAS Publications Dept, PO Box 3, Penicuik, Midlothian EH26 0RZ, UK.

Occasional Publications

The British Society of Animal Science's *Occasional Publication* Series contains the full papers presented at certain symposia organized by the Society. A full list of titles is given on the back cover of this Publication. Copies may be obtained from the British Society of Animal Science, PO Box No. 3, Penicuik, Midlothian EH26 0RZ.



FOOD, LANDS AND LIVELIHOODS — SETTING RESEARCH AGENDAS FOR ANIMAL SCIENCE

Proceedings of a Symposium organized by THE BRITISH SOCIETY OF ANIMAL SCIENCE and held at Nairobi in January 1998

BSAS OCCASIONAL PUBLICATION

Number 21

edited by M. GILL, T. SMITH, G. E. POLLOTT, E. OWEN and T. L. J. LAWRENCE technical editors HILARY DAVIES and CAROL WOOLLIAMS

BSAS EDINBURGH 1998

Occ. Publ. Br. Soc. Anim. Sci. No. 21

ISBN 0 906562 24 4 © 1998 THE BRITISH SOCIETY OF ANIMAL SCIENCE Printed in Great Britain by D. & J. Croal Ltd., Haddington.

Contents

Foreword	i
List of delegates	ii
Ndiritu, C. G. Setting research agendas for Kenya	1
Freeland, G. Setting donor research agendas	5
Fitzhugh, H. A. Global agenda for livestock research	11
Bunoti, C. W. Summary policy recommended for eastern and southern Africa: Mbabane, Swaziland, 28 July to 1 August, 1997	19
Delgado, C. L., Courbois, C. B. and Rosegrant, M. W. Global food demand and the contribution of livestock as we enter the new millennium	27
Leaver, J. D., Santos Flores, J. and Anderson, S. Meeting consumer demands for milk and identifying research priorities	43
Powell, J. H., Pearson, R. A. and Hopkins, J. C. Impacts of livestock on crop production	53
Steinfeld, H. Livestock and their interaction with the environment: an overview	67
Field, C. R. Utilization of marginal and arid rangelands for livestock and wildlife in Africa	77
Thorne, P. J. and Herrero, M. The rôle of livestock in natural resources management	87
McLeod, A., Mulinge, W., Mbabu, A. and Rushton, J. The social and economic importance of livestock and their influence on setting research agendas	95
Alemayehu Konde Farmers' participation in agricultural research: experiences from Ethiopia	101
Perry, B. D. and McDermott, J. J. Assessing the impact of diseases and their control on livestock productivity: the rôle of quantitative epidemiology	111
Group discussion reports Richards, W., Hendy, C., Maanyuchi, B., Mwendia, C., Duncan, A. and Smith, T. The potential for research in advanced institutions to contribute to improving productivity in tropical livestock systems	121
Pollott, G. E. How a systems approach contributes to setting research agendas aimed at improving the livelihoods of livestock owners and the productivity of their livestock	124
Morton, J., Maina Keengwe, Alemayehu Konde, Curry, J. and Mbugua, D. How can participation contribute to effective research agendas?	126