
Contributors

Gerald W. Chege is a Kenyan with a PhD in Parallel Computing from York University, UK. He is presently Assistant Professor and Coordinator of the Information Systems and Technology Department, United States International University, Nairobi. His main area of interests are: computer networks, database technology; systems development, and Internet technology.

Anna Coe drew most of the pictures. Anna grew up in Kenya and has just completed a degree in Illustration at The Arts Institute, Bournemouth, UK. She is hoping to make a career from producing artwork for publications.

Richard (Ric) Coe is an Applied Statistician with an MSc in Biometry from the University of Reading. He worked at the World Agroforestry Centre (ICRAF) in Nairobi, Kenya as the Head of the ICRAF-ILRI Research Methods Group from 1990-2008. Now he divides his time between the ICRAF and the University of Reading, and is based in Moshi, Tanzania, working with scientists on design and analysis of research. He has worked closely with RUFORUM and universities and research institutes throughout Africa to develop research capacity.

Iro Danguimbo is enrolled as a PhD student at the University of Abdou Moumouni de Niamey in Niger carrying out research on economically, environmentally and socially sustainable rural development.

Ben Eldridge designed and typeset GEAR. Ben has been working as a freelance graphic designer since 2008, after working full-time for five years in magazine and book design/production. His website can be viewed at www.beneldridge.co.uk.

Adipala Ekwamu is the Executive Director of RUFORUM, a Network of 25 universities in Eastern, Central and Southern Africa. He was formerly a Professor of Plant Sciences at the Makerere University Faculty of Agriculture. He founded the African Crop Science Society in 1993, and served as Chief Editor of the African Crop Science journal for 10 years. He has over 130 peer reviewed journal publications.

Tony Greenfield, a graduate in Statistics from London University with a PhD in Experimental Design from Sheffield Hallam University, was formerly Head of Process Computing and Statistics at the British Iron and Steel Research Association, Sheffield, and Professor of Medical Computing and Statistics at Queen's University, Belfast. He is a Visiting Professor to the Industrial Statistics Research Unit (ISRU), at the University of Newcastle-upon-Tyne and is past President of European Network for Business and Industrial Statistics (ENBIS). While at Queen's University he established a course in research methods for the medical faculty.

Thomas Gumbricht is a Swedish Hydrologist working with the World Agroforestry Centre. He holds a PhD in Land Improvement and Drainage from the Royal Institute of Technology (KTH),

Sweden, and prior to his arrival in Kenya was Head of Geoinformatics at the Department of Earth Sciences, Uppsala University, Sweden.

Erica Keogh was a lecturer in statistics at the University of Zimbabwe but is currently seconded to the UK's Department for International Development (DFID) monitoring their Humanitarian Relief Programme in Zimbabwe. Since the early 1990's she has become increasingly involved in applications of statistics and has had extensive experience in the design and implementation of surveys in both rural and urban areas, focussing mainly on issues of poverty and related aspects of social change.

Delmira Lorena Mahache Cambaco is registered for an M.Sc in Rural Development at Eduardo Mondlane University, Mozambique. Although her first degree is in History her passion is working with people in rural areas, chicken farming and horticulture.

Larwanou Mahamane is a Lecturer and researcher on forest ecology and agroforestry at the Faculty of Agriculture, University Abdou Moumouni de Niamey, Niger. He works with graduate students and conducts his research mainly with farmers to improve the production systems in the Sahel. Before joining the University of Niamey, Larwanou was with the National Institute for Agricultural Research of Niger for 12 years.

Liliosa Maveneka has a BSc in Mathematics and Botany and an MSc in Agricultural Economics. She worked for the University of Zimbabwe for 15 years and is now a private consultant.

Sheunesi Mpepereki is Professor of Soil Science at the University of Zimbabwe and works closely with graduate students and the public and private sectors in research to assist small rural farmers to improve soil fertility and increase farming incomes and health through the promotion of soyabean production, marketing and consumption.

Kay Muir-Leresche is a Zimbabwean with 30 years' developing-country experience in agricultural and natural resources higher education, research, training, and policy analysis. She resigned the Professorial Chair in the Department of Agricultural Economics at the University of Zimbabwe in 2002 and in 2005 moved to Cape Town, South Africa where she is a private consultant.

Natasha Mukherjee obtained her PhD in Environmental Economics from John Hopkins University. She worked with IFPRI on international and regional trade using CGE models in Africa and Asia and is currently a freelance consultant based in Johannesburg, South Africa.

Shelmith Wanja Munyiri has worked as an extension agent in Kenya for 18 years. She took study leave in 2004 and is enrolled with Egerton University for an MSc in Agronomy and holds a BSc in Horticulture.

Peter K. Muraya is a Kenyan with a BSc in Electronic Computer Systems Engineering from Loughborough University, UK. Presently he is Data Management Specialist with the responsibility of leading the World Agroforestry Centre's initiative to bring management of research data to agreed standards in all regions and projects. He was earlier involved with the development of simulation models for agroforestry systems. His main area of interest is in conceptualising, design and implementation of data management methods and software tools.

Catherine Wangari Muthuri is a Lecturer in the Department of Botany, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya, where she gained her MSc and her

PhD in Plant Physiology and Agroforestry. For the past 15 years Catherine has been involved in teaching administration and research at JKUAT.

Rose Njeru is a senior lecturer in plant pathology at the University of Nairobi who is currently on extended leave to help strengthen the research system at Rwanda Agricultural Research Institute, ISAR where she is involved in working with a dynamic young team determined to contribute to rural development in Rwanda.

Joseph Opio-Odongo is a Ugandan holding a PhD in Rural Sociology from Cornell University, USA. He is one of the United Nations Development Programme's (UNDP's) Environmental Policy Specialists, out-posted to Nairobi to provide technical backstopping to UNDP Country Offices in sub-Saharan Africa on policy and programme development. He previously served as a Sustainable Development Advisor at the UNDP Country Office in Uganda after some years of teaching at Makerere University in Uganda and Ahmadu Bello University in Nigeria. His research and teaching experience has been mainly in the fields of agricultural and rural development.

Bharati K. Patel was Associate Director in the Food Security Division of The Rockefeller Foundation in Africa for 10 years. She established the Forum on Agricultural Resource Husbandry (now RUFORUM), a competitive grants programme designed to encourage and support research on rural development. A Zambian with a primary degree in Botany and a PhD in Nematology from the Waite Institute in Australia, Bharati also worked for the Zambian Agricultural Research System for 20 years where she rose to become the first woman Director of Agricultural Research in Africa.

Aleya Pillai was the artist for the Green Book and is an Indian, with a Commercial Arts Diploma from Jawaharlal Nehru Technological University, Hyderabad, India.

Jane Poole is a British national and holds an MSc in Biometrics (Applied Statistics) from Reading University, UK. She has many year experience in agricultural research in East Africa. She worked at the World Agroforestry Centre and CAB International (Africa Regional Centre), both based in Nairobi, Kenya. After a few years at the UK Forest Research Agency she returned to the ILRI (International Livestock Research Institute) and is currently acting head of the joint ILRI-ICRAF Research Methods Group.

Sue J. Richardson-Kageler is the Biometrician in the Faculty of Agriculture, University of Zimbabwe, where she previously taught in the Statistics Department. A Zimbabwean by nationality, Sue has a DPhil in Ecology which examined the changes in woody plant diversity brought about by large herbivores and an MSc in Biological Computation from the University of York.

Jayne Stack was a Senior Lecturer in the Department of Agricultural Economics and Extension, University of Zimbabwe and has more than 20 years experience in development training, development programmes and research in Africa and Asia. She has taught research methods at undergraduate and postgraduate level and contributed to the development of distance-learning courses in research methods and data analysis for Imperial College, London.

Chrispen Sukume obtained his Ph.D from Oregon State University and has taught Econometrics, Microeconomics and Mathematics in the Dept of Agric Econ & Ext, University of Zimbabwe for 15 years. He has worked extensively in applied research and in supervising graduate studies.

Paul L. Woomer is a researcher working with the Sustainable Agriculture Centre for Research Extension and Development in Africa (SACRED-Africa), a Kenya-based NGO. Paul obtained his PhD in Soil Science at the University of Hawaii and has lived in Kenya since 1990, working throughout Africa.

Aissetou Drame Yaye obtained her PhD in Entomology from the University of Ghana. She worked as a forest engineer in Senegal and Niger and was a lecturer at the Faculty of Agriculture of the Abdou Moumouni University of Niamey in Niger. She was involved with the Forum for Agricultural Research in Africa (FARA) working on SCARDA (Strengthening Capacity for Agricultural Research and Development in Africa) and is currently Executive Director of ANAFE (African Network for Agroforestry Education) based in Nairobi, Kenya.

Cando Zhou is currently enrolled at Africa University, Zimbabwe for an MSc in Crop Production. His previous experience has been in large-scale farming with ARDA (Agricultural and Rural Development Authority) but in future he hopes to focus on teaching, research and consultancy

Acronyms and abbreviations

ACSS	African Crop Science Society
ADDS	African Data Dissemination Service
ACT	almanac characterisation tool
AFRENA	Agroforestry Research Network for Africa
AHI	African Highlands Initiative
AI	appreciative inquiry
AKIS	Agricultural Knowledge and Information System (World Bank)
ANOVA	analysis of variance
AVHRR	Advanced Very High Resolution Radiometer
CARPE	Central African Regional Program for the Environment
CBO	community-based organisation
CD	compact disk
CGIAR	Consultative Group on International Agricultural Research
CIESIN	Center of International Earth Science Information Network
COSOFAP	Consortium for scaling up options for increased farm productivity in Western Kenya
CRSP	Collaborative Research Support Program (USAID)
CRU	Climate Research Unit (University of East Anglia, UK)
CTA	Technical Centre for Agricultural and Rural Cooperation (the Netherlands)
DCW	Digital Chart of the World
DEPHA	Data Exchange Platform for the Horn of Africa
DEM	digital elevation model
DFID	Department for International Development (UK)
DMA	Defense Mapping Agency
DRASTIC	depth of groundwater, recharge, aquifer media, topography, impact of root zone, conductivity
DRC	domestic resource cost
DSMW	Digital Soil Map of the World (FAO)
DSS	decision-support system
ENBIS	European Network for Business and Industrial Statistics
ESA	European Space Agency
ESRI	Environmental Systems Research Institute, Inc.
ETM	Enhanced Thematic Mapper
FAO	Food and Agriculture Organization of the United Nations
FEWS	Famine Early Warning System (USAID)
GDP	gross domestic product
GIS	geographic information system
GPS	global positioning system
GUI	graphical user interface
IARC	international agricultural research centre

IBPGR	International Board on Plant Genetic Resources (now IPGRI)
ICIPE	International Centre for Insect Physiology and Ecology
ICRAF	World Agroforestry Centre
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDS	Institute of Development Studies (UK)
IDW	inverse distance weight
IPCC	Intergovernmental Panel on Climate Change
IPM	integrated pest management
INASP	International Network for the Availability of Scientific Publications (UK)
IPGRI	International Plant Genetic Resources Institute
ISSER	Institute of Statistical, Social and Economic Research
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forestry Research Institute
LFM	logical framework matrix
MAP	methods of active participation
MCE	multi-criteria evaluation
MODIS	Moderate Resolution Imaging Spectroradiometer
NARES	National Research and Extension Services
NARO	National Agricultural Research Organisation (Uganda)
NARS	national agricultural research systems
NDVI	Normalised Difference Vegetation Index
NGO	non-governmental organisation
OECD	Organization for Economic Cooperation and Development
PAR	participatory action research
PI	principal investigator
PRA	participatory rural appraisal
R&D	research and development
RELMA	Swedish-supported Regional Land Management Unit
ROM	read-only memory
RS	remote sensing
SACRED	Sustainable Agriculture Centre for Research Extension and Development in Africa
SAS	statistical analysis system
SPSS	statistical program for social sciences
SRTM	Shuttle Radar Topography Mission
SSA	sub-Saharan Africa
TEEAL	The Essential Electronic Agriculture Library
TM	Thematic Mapper
TSBF	Tropical Soil Biology and Fertility
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSO	United Nations Statistical Organization
USAID	United States Agency for International Development
USGS	United States Geological Survey
VCD	visual compact disk
WARDA	West Africa Rice Development Association
WBS	work breakdown structure
WFP	World Food Programme
WRI	World Resources Institute

Appendices

- Appendix 1** The Craft of Research. Paul L. Woomer.
- Appendix 2** Innovation, Problem Solving and Operational Research Strategies. Paul L. Woomer.
- Appendix 3** Designing Research Around Client Needs. Paul L. Woomer.
- Appendix 4** Preparing and Refining a Research Proposal. Paul L. Woomer.
- Appendix 5** Stapleton, P., Youdeowei, A., Mukanyange, J. and van Houten, H. 1995. *Scientific Writing for Agricultural Research Scientists*. WARDA/CTA, Ede, The Netherlands.
- Appendix 6** Publication as an Output of Science. Adipala Ekwamu.
- Appendix 7** The Art and Ups and Downs of Scientific Publication. Adipala Ekwamu.
- Appendix 8** Yayé, Aissétou. *The Approach of the Promotion of Rural Initiatives and Innovations (PAIIP) Project, Aguié Niger: Research with and for the Rural Community* (in French).
- Appendix 9** Muraya, P., Garlick, G. and Coe, R. 2003. *Research Data Management*. World Agroforestry Centre (ICRAF), Nairobi, Kenya.
- Appendix 10** **Part 1 | Part 2 | Part 3 | Part 4**
Coe, R., Stern, R., Allan, E., Beniést, J. and Awimbo, J. 2002. *Data Analysis of Agroforestry Experiments*. World Agroforestry Centre, Nairobi (ICRAF) Kenya.
- Appendix 11** ICRAF. 2003. *Genstat Discovery Edition and Other Resources*. World Agroforestry Centre (ICRAF), Nairobi, Kenya.
- Appendix 12** Give us a Chance: Research Students and Communities. Joseph Opio-Odongo.