

CURRICULUM VITAE

Name **ROY H. BEHNKE**

Current positions

Freelance consultant Odessa Centre Ltd.
Great Wolford
Warwickshire CV36 5NN, UK

Visiting Researcher

Division of Ecology and Evolution
Faculty of Natural Sciences
Imperial College London
London SW7 2AZ, UK

Nationality

Dual British and American citizenship

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Profile

Roy Behnke was trained in Arabic studies and social anthropology at the Universities of Chicago and California, and has worked on problems of extensive livestock production and rangeland management and tenure for over 30 years. He has served as a civil servant in three African governments, as a free-lance consultant to international donor agencies, and as a research scientist. In addition to short-term assignments, he has lived and worked for extended periods in Turkmenistan, Kazakhstan, Libya, Iraq, Sudan, Somalia, Zambia, Namibia and Botswana. He is currently co-editor of the journal *Pastoralism – research policy and practice* <http://www.pastoralismjournal.com/>, co-director of a consulting firm specializing in pastoral development and natural resource management, and a Research Fellow of Imperial College London.

Education

University of Chicago 1965-69
Bachelor of Arts with special honours
Civilisation Studies (Islamic Civilisation).

University of California, Los Angeles 1969-71
Master of Arts in Social Anthropology.

University of California, Los Angeles 1971-75
Doctor of Philosophy in Social Anthropology.

Major research and development interests

- The ecology and management of grazed semi-arid environments.
- Cost-benefit analysis of livestock production and irrigated agriculture in pastoral East Africa.
- Quantification of the economic contribution of pastoralism to national economies.
- The commercialisation of pastoral production in Africa and ex-Soviet Central Asia.

- The desertification debate.
- Strengthening the role of social science in agricultural and environmental policy formulation.

Languages

French Reading
 Arabic I speak the dialect of Bedouin Arabic used in eastern Libya and the Western Desert of Egypt, and I am familiar with the dialects of Western Sudan and Southern Iraq.

PROFESSIONAL POSITIONS

2011 on-going Division of Ecology and Evolution, Faculty of Natural Sciences, Imperial College London.

Research Fellow on a Leverhulme funded study ‘Exclusion vs Mobility: Limits to Ideal Free Distributions in Pastoralist Systems.’ I was involved in writing the research proposal and responsible for field research and the analysis of seasonal herd movement patterns and resource control at the project’s Turkmenistan study sites. The project is under the overall direction of E.J. Milner-Gulland, Professor in Conservation Science, now at Zoology Department, Oxford University.

2005 ongoing Odessa Centre Ltd. UK, www.odessacentre.co.uk

Co-director of a small research and consultancy company in England. The company specialises in fieldwork and desk assessments on extensive livestock production and rangeland systems in semi-arid regions of Africa and Asia, for national and international development agencies. Together with Carol Kerven, I co-edit the Springer open access peer-reviewed journal:

Pastoralism: Research, Policy and Practice <http://www.pastoralismjournal.com/>

Recent consultancy and research assignments include:

- Consultant preparing a Background Paper on “Human, Social, Political Dimensions of Resilience” for the World Bank, FAO, the CGIAR Centres, CIRAD/CILSS and other organizations to develop a Flagship Report on the “Economics of Resilience in the Drylands of Sub-Saharan Africa (SSA)” as a contribution to the on-going dialogue by policy makers, countries and development partners aiming to create measures and approaches to enhance the resilience and to reduce vulnerability of the dryland dwellers. Assisted with commissioning and coordination of contributions from 8 senior academic researchers in UK, USA, France and Senegal into a five section report.
- Team leader for the Lowland Design for Next Generation of Productive Safety Net Programme (PSNP) and Household Asset Building Programme, Ethiopia. Assignment in Ethiopia to assist the Joint Technical Committee and Working Group, reviewing appropriateness and efficiency of the PSNP in lowland (and pastoral) areas, and propose recommendations how to better achieve the objectives, for livelihood diversification and resilience activities across Ethiopia’s lowland dryland pastoral and agro-pastoral regions.
- International Team leader for “Pastoralist Research Study on Livelihood resilience, livestock mobility and adaptation in Sudan”, Tufts University USA in **2013, 2014 and**

2015. Providing advice, training and technical inputs on research tools for baseline, longitudinal monitoring and case studies of mobile pastoral households in two States of Sudan, in a field study implemented by local and international NGOs. Providing back up support to the team, analysing the data and results from the field studies and preparing a final report on the studies' results.

- Co-organiser of a scientific conference and senior editor of publication on “Desertification: the interplay of science, politics and public opinion”, with funding from Tufts University Feinsein Center USA and International Institute for Environment and Development, London. The conference in 2013 provided a scientific reassessment of global dryland degradation based on recent scientific findings, examining the challenges of conducting and promulgating environmental research in a politicized and bureaucratized institutional environment. The papers resulting from this conference will appear as an edited book in 2015 in the Springer-Praxis Earth System Science Series.
- Consultant (with co-authors) preparing Technical Brief on “Enhancing resilience of drought-prone communities in the IGAD region: natural resource management,” for Technical Consortium hosted by the Consortium of International Agricultural Research Centres (CGIAR) in partnership with the Food and Agriculture (FAO) Investment Centre.
- Consultant responsible for assessing the national accounting procedures used in Ethiopia, Kenya, Sudan and Uganda for determining the contribution of livestock to gross domestic product (GDP). In a series of six reports, this study identified large underestimates in the values officially attributed to livestock production and recommended improved methods for quantifying the significance of livestock to the economies of all four countries. Work was supported by the Intergovernmental Authority for Development (IGAD).
- Consultant to ARD, Washington DC to prepare an Issues Brief on ‘Pastoral Land Rights and Resource Governance’ for the Property Rights and Resource Governance Program of the United States Agency for International Development (USAID).
- Leader of a four-person research programme on the costs and benefits of pastoralism versus commercial irrigated agriculture. The study documented the economic implications of alternative land use systems – pastoralism versus irrigated cotton and sugar plantations – in the Awash Valley of Ethiopia and developed a training programme to replicate similar research in other areas of eastern Africa, for the International Institute for Environment and Development (IIED).
- Part of a five-person team to examine policy options and scenarios for improved pastoral welfare and economic development in Ethiopia. A series of three reports were prepared for the Senior Economic Advisor to the Prime Minister, September 2009 – January 2010, funded by the UK Department for International Development (DFID).
- Consultant to the Feinsein International Center, Tufts University, to provide capacity-building support and training on pastoralism for staff of the Common Market for Eastern and Southern Africa (COMESA), funded by USAID’s project on Regional

Enhanced Livelihoods in the Mandera Triangle (REPLA), Nov. 2008 – April 2009.

- Scientific co-manger for a European Commission funded research project *Range Enclosure on the Tibetan Plateau of China: Impacts on Pastoral Livelihoods, Marketing, Livestock productivity and Rangeland Biodiversity*, coordinating research undertaken in China by four European and four Chinese research institutes and one international agricultural research centre, 2007-2010.
- Leader of a three-person consultancy team to Ethiopia, evaluating a pastoral development programme funded by USAID for \$29 million between 2005 and 2008. The programme had been implemented by seven international and national NGOs, in the three pastoral regions of Afar, Oromia and Somali, where the team carried out field site visits.
- Leader of a six-person consultancy team to extend Ethiopia's Productive Safety Net Programme into pastoral areas. The Safety Net Programme is an attempt to regularize the delivery of emergency relief to chronically food-insecure households and constitutes the largest single channel of donor support to the Ethiopian government. In 2006-07 the consultancy adapted this programme, which had been initiated in highland farming areas, to operate in lowland pastoral communities.
- Editor of reports on the value of ecosystem services provided by drylands in Kenya, Niger and Botswana, for the International Union for the Conservation of Nature (IUCN) in 2007.
- Director of a North Atlantic Treaty Organization (NATO) funded Advanced Research Workshop on *The Socio-economic Causes and Consequences of Desertification in Central Asia*, held in Bishkek, Kyrgyzstan in June 2006, and editor of the book that published the results of the workshop (2008).
- Co-principal Investigator on the National Science Foundation (NSF, USA) funded research project, 'Biocomplexity, Spatial Scale and Fragmentation: Implications for Arid and Semi-arid Ecosystems,' managed by the Natural Ecology Resource Laboratory, Colorado State University. Responsible for writing scientific articles and book chapters, co-editing a book produced by the project (2008), and coordinating research on land use at fifteen study sites on four continents.
- Author of a desk study for the UK Home Office, Immigration and Nationality Directorate, *Evaluation of the Home Office country of Origin information Bulletin on Mongolia*, and of a study of livestock economics and marketing for the International Union for the Conservation of Nature (IUCN) and the World Initiative for Sustainable Pastoralism (WISP), *The Economic Contribution of Pastoralism: Case Studies from the Horn of Africa and Southern Africa*.
- Consultancy on rangeland management for the Centre for Sustainable Development (CENESTA), an Iranian NGO based in Tehran, including a lecture at the Research Institute for Forests and Rangelands and the preparation of a proposal for further work on rangeland management with scientists, natural resource managers and NGOs in Iran.

1999-2004 Macaulay Institute, Aberdeen U.K.

Pastoral Development Specialist responsible for initiating research projects and undertaking contract work on extensive livestock production and natural grazing systems in semi-arid Africa and Central/Inner Asia. I co-ordinated an interdisciplinary EC-funded research project investigating desertification and rangeland regeneration in contemporary Turkmenistan and Kazakhstan. Project collaborators were drawn from a total of eight institutes in Europe and Central Asia and represented a wide range of biological, social and agricultural sciences. My own field research documented changes in land tenure, livestock population dynamics and livestock movement patterns since decollectivization in the mid-1990s.

1998-99 Overseas Development Institute research project on ‘Impacts of Privatisation on Range and Livestock Management in Semi-arid Central Asia,’ Kazakhstan and Turkmenistan

Land tenure specialist on a ten-person team of biological and social scientists from the UK, USA, Kazakhstan, and Turkmenistan examining the impact of economic liberalisation on rangeland condition, livestock population levels and household economics. During six months of fieldwork in Kazakhstan and Turkmenistan, I investigated changes in land use and tenure among pastoralists who were formerly collectivised into state farms, but were now managing their animals privately.

1996-98 Namibia: International Fund for Agricultural Development (IFAD), Rome

Rural Sociologist for the Northern Regions Livestock Development Project, a multi-donor livestock and rangeland development project in the communal areas of northern Namibia. I served initially as the project’s senior social science advisor and subsequently as a consultant to the project. I was responsible for designing, managing, and executing research to guide project implementation, and was instrumental in re-designing the project in its first year of operation. Work was carried out on the formulation of new national land tenure legislation and water development policy for the communal areas. I personally undertook or supervised field studies in all regions within the project area and collaborated with other project staff to design the project’s range management programme and prepare a handbook on project procedures and guidelines.

1996-97 Overseas Development Institute (ODI) and the Natural Resources Institute (NRI), Namibia

Research Associate on a five-month study on the illegal private fencing of communal rangelands in northern Namibia. I organised and chaired a meeting to present study results to local residents and regional political authorities and – at the request of the Minister of Agriculture – prepared a briefing note to the President of Namibia outlining study results and recommending changes in national policy.

1995 Namibia: Food and Agriculture Organisation (FAO) of the United Nations

Consultant land tenure specialist to assist the Namibian Ministry of Lands, Resettlement and Rehabilitation in the implementation of the Agricultural (Commercial) Land Reform Act of 1994. The Commercial Land Act was designed to redistribute commercial white-owned ranches to black small-holders. Work focused on developing scientifically defensible definitions of ‘under-utilised’ and ‘excessive’ land holdings, the identification of beneficiaries for resettlement, and the assessment of alternative resettlement schemes.

1989-96 Overseas Development Institute (ODI), U.K.

Research Fellow responsible for ODI research on extensive livestock development and rangeland management, and editor of the *Pastoral Development Network* papers, an informal journal and medium for research and information exchange. The network had over 700 members world-wide, including donor agencies, research institutions, and commercial firms, social and biological scientists. Six to ten papers, covering current research and policy issues, and two newsletters were published annually.

Three major research programmes were undertaken in collaboration with other researchers. The first was a study of the policy implications of spontaneous commercial development in pastoral Africa (funded by the Economic and Social Council on Research, ESCOR, under ODA/DFID). The second research project involved the co-ordination of a series of studies, workshops and publications on the management of communal grazing resources, funded by the World Bank, the Commonwealth Secretariat and DFID. The third research project, again funded by ESCOR/DFID, was a review of policies on extensive livestock production in post-Soviet Central Asia. This work led to further funding by ESCOR and later by the EC for on-going research in Kazakhstan and Turkmenistan.

1991-93 The Commonwealth Secretariat, the World Bank and ODA, U.K. and Zimbabwe

Project Leader organising funding, recruiting consultants, editing reports and a book, writing research reports and convening a series of meetings on the management of communally owned semi-arid rangelands in Africa. This research project concluded that the mainstream view of range science was fundamentally flawed in its application to certain rangeland ecologies and African pastoral production systems, and that conventional theories required a thorough re-examination.

1993 Mongolia: Institute of Development Studies, University of Sussex, U.K.
Field Co-ordinator responsible for overseeing four teams of Mongolian and U.K. researchers investigating the socio-economic feasibility of a proposed fodder project to be funded by the Asian Development Bank.

1990 Kenya: Royal Norwegian Ministry for Development Co-operation (NORAD)

Consultant to undertake a livestock marketing study in Turkana District of Kenya, on behalf of the Turkana Rural Development Project. The study involved interviewing Turkana pastoralists and traders about market conditions including seasonal price and supply fluctuations and trading margins. Existing marketing systems were assessed and recommendations made for ministerial and project activities to improve livestock marketing in the District.

1987-89 Zambia: Royal Norwegian Ministry for Development Co-operation (NORAD)

Rural Sociologist serving as a Zambian civil servant in the Provincial Planning Unit, Northern Province, and reporting directly to the Chief Regional Planner and the Permanent Secretary, the province's senior administrators. Duties included the collection and analysis of socio-economic data and contribution to the formulation and evaluation of provincial development policy. In this position I established and served as the secretary for an agricultural development co-ordination committee overseeing all agricultural institutions and development efforts in the province, particularly crop input supply and harvest collection. Research duties included a review of all animal draft power projects in Northern Province and a year-long field study on livestock health and management at six sample villages.

1986 **Somalia: United States Agency for International Development (USAID)**
Socio-Economist for one year on the Livestock Health and Marketing Project designed to improve Somali veterinary services and renovate livestock marketing and quarantine facilities. I documented pastoral perceptions of health and marketing issues so that the project could take into account producers' requirements. Field research described a major range enclosure movement in central Somalia and analysed the effect of the new land tenure system on commercial livestock output.

1986 **Iraq: Food and Agriculture Organisation of the United Nations (FAO)**
Farming Systems Expert on the Ahwar Region Integrated Rural Development Project, an exploratory research effort by FAO, UNDP and the Iraqi Government in the marshes of southern Iraq. The Farming Systems Expert was responsible for analysing existing production systems and designing a research and development programme suited to local needs. As acting team leader, I also handled all project administration including liaison with government agencies, purchasing and project finances, staff and consultant recruitment.

1985 **Somalia: The World Bank**
Consultant to MASCOTT Ltd (UK) on a team to review and redesign the Central Rangelands Development Project, National Range Agency, Somalia. The CRDP was to provide a comprehensive strategy for preserving and rejuvenating the grazing areas used by the nomads of central Somalia. I was responsible for assessing the pastoralists' response to the project, and representing their point of view to the consultancy team. Field research revealed the existence of highly sophisticated pastoral systems of range classification, and I recommended that these systems be used by project ecologists in the design of future range surveys.

1985 **Overseas Development Institute, U.K.**
Research Associate to prepare case studies and a policy-related research programme on the management of common property resources, in particular, communally owned African rangelands. The report presented a general economic theory of the evolution of property rights, and examined the adequacy of this theory in light of two contemporary land use systems in arid Africa. The report also assessed the practical implications of this research approach for the design of more realistic policies on livestock development and range management in Africa.

1984-85 **Sudan: Overseas Development Administration (ODA)**
Development Sociologist with Hunting Technical Services (UK) on the Western Savannah Development Project, South Darfur, Sudan. My duties included advising the project on the social aspects of the range management programme, evaluating the past performance of the livestock-related components of the project, and suggesting new project activities if the project was extended under additional funding. Field research investigated the relationship between a spontaneous, local range enclosure movement and the planned, project-sponsored range enclosure programme.

1984 **Somalia: United States Agency for International Development (USAID)**
Consultant with Department of Sociology, University of Wyoming on the Bay Region Agriculture Development Project in Somalia. I was hired to provide in-depth socio-economic analysis of agro-pastoral production systems, in order to provide a framework for the interpretation of regional base-line survey data.

1980-83 Botswana: United States Department of Agriculture (USDA)

Senior Rural Sociologist hired by the USDA and seconded to the Government of Botswana. The Senior Rural Sociologist was in charge of all administrative and professional aspects of the Rural Sociology Unit, Ministry of Agriculture. Duties included advising the Government on the social aspects of rural development planning and project implementation. Specific tasks included: formulation of research priorities and programmes; collection of data through surveys and reviews of the existing literature; overseeing the analysis of this data and the publication and dissemination of research findings; co-ordination of independent researchers associated with the unit; membership and chairmanship of inter-ministerial committees on research policy and administration.

Two separate research projects were undertaken. The first was a herd management study involving 21 herds and herd-owning families, in three locations. The second project was an interdisciplinary study of livestock-crop linkages, also involving the Farm Management Unit and an agronomist from the Agricultural Research Station. The research, among 30 farming families, tested the hypothesis that timely ploughing and planting were critical factors controlling yields in Botswana's semi-arid environment.

1978-79 Rockefeller and Ford Foundations, Libya

Senior Researcher on a project funded by the Joint Rockefeller-Ford Research Program on Population and Development Policy (in affiliation with the University of California at Santa Barbara and Garyounis University, al-Baida, Libya). Field research demonstrated the existence of indigenous Libyan ranching operations, and documented the critical importance of reducing the number of herd owners so as to permit individual herd growth and encourage management and marketing innovations.

1976-77 Weber State College, Utah, U.S.A.

Assistant Professor of Anthropology Courses taught: Peoples and Cultures of Africa; Introduction to Anthropology (including physical anthropology and archaeology); Introduction to Cultural Anthropology; Comparative Religious Systems; Theory in Social-Cultural Anthropology.

1975-76 University of California at Santa Barbara, U.S.A.

Lecturer in Social Anthropology Courses taught: Peoples and Cultures of the Middle East; Current Research Issues in the Anthropology of the Middle East and North Africa; graduate and undergraduate seminars in Political Anthropology.

1970-75 University of California at Los Angeles, U.S.A.

Teaching Associate Department of Anthropology, teaching Introduction to Physical Anthropology; **Research Assistant** for Professors Hilda Kuper and Norman E Whitten.

FELLOWSHIPS AND RESEARCH GRANTS

- 2011-14** Leverhulme Foundation grant for *Exclusion vs Mobility: Limits to Ideal Free Distributions in Pastoralist Systems*. Imperial College London: £237,623.
- 2007-10** European Commission International Cooperation grant for *Range Enclosure on the Tibetan Plateau of China: Impacts on Pastoral Livelihoods, Marketing, Livestock productivity and Rangeland Biodiversity*. The Macaulay Institute: 2,160,000 euros.
- 2006** North Atlantic Treaty Organization (NATO) Public Diplomacy Division grant to support an Advanced Research Workshop on *The Socio-Economic Causes and Consequences of Desertification in Central Asia*. The Macaulay Institute: 45,000 euros.
- 2002-07** U.S. National Science Foundation (NSF) grant for *Biocomplexity, Spatial Scale and Fragmentation: Implications for Arid and Semi-arid Ecosystems*. The Macaulay Institute in collaboration with the Natural Resource Ecology Laboratory, Fort Collins, Colorado State University: \$110,000 for Macaulay component.
- 2004** Macaulay Development Trust grant to support collaboration between Macaulay Institute and the Global Livestock Collaborative Research Support Program (GL-CRSP) on Central Asian livestock and rangelands. Macaulay Institute: £10,149.
- 2001-04** European Commission International Cooperation (INCO-Copernicus) grant for *Desertification and Regeneration: Modelling the Impact of Market Reforms on Central Asian Rangelands*. The Macaulay Institute: 980,575 euros.
- 2001** U.K. Department for International Development (DFID) Natural Resources Systems Programme (NRSP) funding to support *Common Problems with Common Property*, a review of common property management regimes in Africa and Asia. The Macaulay Institute: £3,900.
- 1996-97** U.K. Overseas Development Administration (ODA, now DFID), Natural Resources Division grant to support *Privatisation of Rangeland Resources in Namibia*. Overseas Development Institute: £67,094.
- 1995-96** ODA grant to undertake Economic or Social Research for the Benefit of Developing Countries (ESCOR) for *Review of Planning and Policies in Extensive Livestock Development in Central Asia*. Overseas Development Institute: approximately £40,000. This grant led to the successful submission of *Impacts of Privatisation on Range and Livestock Management in Semi-arid Central Asia* co-ordinated by C. Kerven (ODA ESCOR £213,000) in 1997-98.
- 1989-96** ODA Natural Resources Division multiple grants to support the *Pastoral Development Network*. Overseas Development Institute: £602,000 over seven years.

- 1994** ODA ESCOR grant to disseminate the results of *Commercial Change in Pastoral Africa: Implications for Donor and National Government Policy*. Overseas Development Institute: £12,000.
- 1990-92** ODA ESCOR grant for *Commercial Change in Pastoral Africa: Implications for Donor and National Government Policy*. Overseas Development Institute: £83,625.
- 1992-93** World Bank grant to support the publication of *Range Ecology at Disequilibrium*. Overseas Development Institute: approximately £15,000.
- 1990-92** Commonwealth Secretariat, World Bank and ODA grants to support *Management and Sustainable Use of Communal Rangelands in Africa*. Overseas Development Institute: approximately £40,000.
- 1978-79** Joint Rockefeller-Ford Research Program on Population and Development Policy, grant to support *Oil, Nomadic Settlement and the Development of Proto-Ranching in Cyrenaica*. The University of California at Santa Barbara and Garyounis University, al-Baida, Libya: \$34,997.
- 1977** Faculty Senate Grant, Weber State College, to prepare the manuscript of *The Herders of Cyrenaica* for publication.
- 1972-72** U.S. National Science Foundation Grant to support dissertation field research in Libya.
- 1972** Middle East Center, University of California, Los Angeles, Grant-in-Aid to support dissertation field research in Libya.
- 1969-73** U.S. National Science Foundation Trainee, Department of Anthropology, University of California, Los Angeles.

SELECTED PUBLICATIONS

BOOKS

2016

R. Behnke and M. Mortimore (eds). *The End of Desertification? Disputing Environmental Change in the Drylands*. (in press) Springer, Dordrecht, The Netherlands.

2008

R. Behnke (ed.). *The Socio-Economic Causes and Consequences of Desertification in Central Asia*. Springer, Dordrecht, The Netherlands.

2008

K. Galvin, R. Reid, **R. Behnke** and T. Hobbs (eds.) *Fragmentation in Semi-arid and Arid Landscapes: Consequences for Human and Natural Systems*. Kluwer Publishing Co.

1996

C. Kerven, J. Channon and **R. Behnke**. *Review of Extensive Livestock Development in Central Asia*. Overseas Development Institute, London.

1993

R. Behnke, I. Scoones and C. Kerven (eds.). *Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas*. Overseas Development Institute, London.

1980

The Herders of Cyrenaica. Urbana, University of Illinois Press.

BOOK CHAPTERS AND ARTICLES

2015

Behnke, R. H, Robinson, S., Milner-Gulland, E.J. Governing open access: livestock distributions and institutional control in the Karakum Desert of Turkmenistan. (In press) *Land Use Policy*.

2013

R.H. Behnke and Kerven, C. “Counting the costs: replacing pastoralism with irrigated agriculture in the Awash valley of ”. Working Paper No. 4, Climate resilience, productivity and equity in the Drylands. International Institute for Environment and Development, London. 47 pages.
<http://pubs.iied.org/10035IIED.html>

H. Young, H Sulieman, **R.H. Behnke** and Z. Cormack “Pastoralism in practice: monitoring livestock mobility in contemporary Sudan” Feinstein International Center, Tufts University.

2012

R.H. Behnke, R.H. and Kerven, C. 2012. “Counting the costs: replacing pastoralism with irrigated agriculture in the Awash valley”. In Catley, A., Lind, J. and Scoones, I. (eds). *Pastoralism and Development in Africa: Dynamic changes at the margins*. Earthscan from Routledge, London, pp. 57-70.

2011

R.H Behnke, M. Fernandez-Gimenez, M. Turner and F. Stammler. Pastoral migration: mobile systems of livestock husbandry. In E.J. Milner-Gulland, J. Fryxell and A.R.E. Sinclair (eds.) *Migration – A Synthesis*. Oxford University Press.

R.H. Behnke. Pastoral Land Rights and Resource Governance: Overview and Recommendations for Managing Conflicts and Strengthening Pastoralists’ Rights. USAID Issue Brief, Property Rights and Resource Governance Briefing Paper No. 10
<http://usaidlandtenure.net/usaidltp/products/issue-briefs/issue-brief-pastoral-land-rights-and-resource-governance/view>

2010

Toutain, B., A. Islpwocz, C. Dutilly-Daine, R. Reid, M. Ibrahim, A.T. Diop, V.K.Taneja, A.Gibon, D Genin, M. Ibrahim, **R. Behnke**, and A. Ash. Impacts of extensive livestock systems on terrestrial ecosystems. In H. Steinfeld, H.A. Mooney, F. Schneider, and L.E. Neville (eds.) *Livestock in a Changing Landscape: Drivers, Consequences and Responses*. Island Press, Washington, D.C.

2008

The economic contribution of pastoralism: case studies from the Horn of Africa and southern

- Africa. *Nomadic Peoples* 12 (1): 45-79.
- Alimaev I.I. and **R. H. Behnke**. Ideology, land tenure and livestock mobility in Kazakhstan. In K. Galvin, R. Reid, R. Behnke and T. Hobbs (eds.) *Fragmentation in Semi-arid and Arid Landscapes: Consequences for Human and Natural Systems*. Springer, Dordrecht, The Netherlands.
- The drivers of fragmentation processes in semi-arid and arid landscapes. In K. Galvin, R. Reid, **R. Behnke** and T. Hobbs (eds.) *Fragmentation in Semi-arid and Arid Landscapes: Consequences for Human and Natural Systems*. Springer, Dordrecht, The Netherlands.
- R. Behnke**, G. Davidson, A. Jabbar, M. Coughenour. Human and natural factors that influence livestock distributions and rangeland desertification in Turkmenistan. In R. Behnke (ed.) *The Socio-Economic Causes and Consequences of Desertification in Central Asia*. Springer, Dordrecht, The Netherlands.
- Michael Coughenour, **Roy Behnke**, John Lomas and Kevin Price. Forage distributions, range condition, and the importance of pastoral movement in Central Asia – a remote sensing study. In R. Behnke (ed.) *The Socio-Economic Causes and Consequences of Desertification in Central Asia*. Springer, Dordrecht, The Netherlands.
- Iliya I. Alimaev, Carol Kerven, Aibyn Torekhanov, **Roy Behnke**, Kazbek Smailov, Vladimir Yurchenko, Zheksinbai Sisatove and Kanat Shanbaev. The impact of livestock grazing on soils and vegetation around settlements in southeast Kazakhstan. In R. Behnke (ed.) *The Socio-Economic Causes and Consequences of Desertification in Central Asia*. Springer, Dordrecht, The Netherlands.

2006

- Kerven, C., I. Alimaev, **R. Behnke**, G. Davidson, A. Smailov, S. Temirbekov, I. Wright. Fragmenting pastoral mobility: changing grazing patterns in post-Soviet Kazakstan. In D. Bedunah, J. McArthur, E. Durant and M. Fernandez-Gunebez (eds.) *Rangelands of Central Asia: Transformations, Issues and Future Challenges*. USDA Forest Service Proceedings RMRS-P-39.

2005

- R. Behnke**, A. Jabbar, A. Budanov, and G. Davidson. The administration and practice of leasehold pastoralism in Turkmenistan. *Nomadic Peoples* (9) 1, 2: 147-170.
- E.J. Milner-Gulland, C. Kerven, **R. Behnke**, I.A. Wright, A. Smailov. A multi-agent system model of pastoralist behaviour in Kazakhstan. *Ecological Complexity*: 57: 1-14.
- Behnke, R.H.**, and G. C. Davidson. Range-based livestock production in Turkmenistan. In J. Milne (ed.) *Pastoral Systems in Marginal Environments*. Proceedings of a satellite workshop of the XXth International Grasslands Congress, July 2005, Glasgow. Wageningen Academic Publishers, Netherlands, pp. 91-102.

2004

- Kerven, C., Alimaev, I., **Behnke**, R.H., Davidson, **G.C.**, Smailov, A., Temirbekov, S., Wright, I.A. Fragmenting pastoral mobility: Changing grazing patterns in post-Soviet Kazakstan. *African Journal of Range and Forage Science* 21 (3): 159–169.

2003

- Reconfiguring property rights and land use in pastoral Kazakstan. In C. Kerven (ed.) *From State Farm to Private Flock: The Prospects for Pastoralism in Kazakstan and Turkmenistan*. RoutledgeCurzon Press, London.
- Kerven, C., I.I. Alimaev, **R. Behnke**, G. Davidson, L. Franchois, N. Malmakov, E. Mathijs, A. Smailov, S. Temirbekov and I. Wright. Retraction and expansion of flock mobility in

Central Asia: costs and consequences. In *Proceedings of the VII International Rangelands Congress*, Durban, South Africa.

R. Behnke, I. Alimaev, V. Yurchenko, Zh. Sisatov, K. Kushenov, and G. Kilidebkova. The modern state of pastures in Almaty Oblast. *The Bulletin of Agricultural Science in Kazakhstan* 3: 25, 26. In Russian.

R. Behnke, V Yurchenko, Z. Sisatov, K. Kushenov and I. Alimaev. Degradation and regeneration of vegetation of the Moiynkum-Betpakdala pasture complex. *The Bulletin of Agricultural Science in Kazakhstan* 2: 16, 17. In Russian.

2002

S.M. Howden, B. Foran and **R. Behnke**. Future shocks to people and rangelands. A.C. Grice and K.C. Hodgkinson (eds.) *Global Rangelands: Progress and Prospects*. CABI Publishing, Wallingford UK.

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2013

R. Behnke. *The Contribution of Livestock to the Economies of Kenya, Ethiopia, Uganda and Sudan.* IGAD, Nairobi and Odessa Centre, U.K.

F. Flintan, **R. Behnke** and C. Neeley. *Enhancing Resilience of Drought-Prone Communities in the IGAD Region: Natural Resource Management.* Horn of Africa Technical Consortium and ILRI, Nairobi.

2012

The Ecology and Political Economy of Pastoral Resource Tenure. Lecture given to the ICCS Group, Division of Ecology and Evolution, Imperial College, Silwood Park. February 23 2012.

R. Behnke and M. Nakiryia. *The Contribution of Livestock to the Ugandan Economy.* Intergovernmental Authority for Development, Livestock Policy Initiative (IGAD LPI) Working Paper No. 02 -12. IGAD, Addis Ababa and Odessa Centre, U.K.

R. Behnke and H. M. Osman. *The Contribution of Livestock to the Sudan Economy.* Intergovernmental Authority for Development, Livestock Policy Initiative (IGAD LPI) Working Paper No. 01 -12. IGAD, Addis Ababa and Odessa Centre, U.K.

2011

R. Behnke and C. Kerven. Replacing pastoralism with irrigated agriculture in the Awash Valley, northeast Ethiopia: counting the costs. Paper presented at the International Conference on Future of Pastoralism, 21 – 23 March 2011, organised by the Future Agricultures Consortium at the Institute of Development Studies, University of Sussex and the Feinstein International Center of Tufts University.

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2010

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P.D. Little, **R. Behnke**, J. McPeak and G. Gebru. Retrospective Assessment of Pastoral Policies in Ethiopia, 1991-2008. Report Number 1 *Pastoral Economic Growth and Development Policy Assessment*, Ethiopia. Department for International Development and the Ethiopian Development Research Institute, Addis Ababa.

P.D. Little, **R. Behnke**, J. McPeak and G. Gebru. Future Scenarios for Pastoral Development in Ethiopia, 2010-2025. Report Number 2 *Pastoral Economic Growth and Development Policy Assessment*, Ethiopia. Department for International Development and the Ethiopian Development Research Institute, Addis Ababa.

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2009

Replacing Pastoralism with Cotton: Counting the Costs. Report for the International Institute for Environment and Development (IIED) on the Awash Valley, Ethiopia.

2006

The Economic Contribution of Pastoralism: Case Studies from the Horn of Africa and Southern Africa. Final Report for the International Union for the Conservation of Nature (IUCN) and World Initiative for Sustainable Pastoralism (WISP) study on Livestock Economics and Marketing.

2005

Range Ecology at Disequilibrium: Questions about Managing Iran’s Rangelands. Lecture sponsored by the Centre for Sustainable Development (CENESTA) and delivered at the Research Institute for Forests and Rangelands, 31 August, Tehran, Iran.

Non-equilibrium theories of rangeland dynamics: the evidence after fifteen years. Lecture to MSc students, School of Geography and Environment, University of Oxford, 22 February.

Free distributions and property rights: Resource use in mobile pastoral systems. Lecture to the School of Geography and Environment, University of Oxford, 8 March.

Evaluation of the Home Office Country of Origin Information Bulletin on Mongolia. Report to the Advisory Panel on Country Information, Immigration and Nationality Directorate,

Home Office, London.

2004

R. Behnke, A. Jabbar, A. Budanov and G. Davidson. The bio-physical determinants of pastoral mobility: seasonality, opportunism and crowding in Turkmenistan. Paper prepared for workshop on Conditions of Pastoral Mobility, Max Plank Institute for Social Anthropology, 17-19 June, Halle, Germany.

An Agenda for Joint Research with the Global Livestock Collaborative Research Support Program (GL-CRSP) on Central Asian Livestock and Rangelands. Lecture presented on behalf of the Macaulay Institute to researchers, donors and national policy makers. 8 October, Almaty, Kazakhstan.

2003

R. Behnke, I Alimaev and C. Kerven. The institutional dimensions of sustainability: the evolution of grazing systems in Kazakhstan. Paper prepared for MEDRAP conference on *European Desertification Research*, Montpellier, France, February 2003, conference proceedings edited by G. Enne.

Property rights and pastoralism in contemporary Kazakhstan: the role of community-level institutions in sustaining flock mobility. Paper prepared for the International Union of Anthropological and Ethnological Sciences, Commission on Nomadic Peoples, 7-8 July, Florence, Italy.

Property Rights and rangeland use in Kazakhstan and Turkmenistan. Paper prepared for the workshop on *Anthropological Perspectives on Central Asia*, Max Plank Institute for Social Anthropology, 19-21 December, Halle, Germany.

1999

Livestock Populations, Land Use and Tenure: Jambul Raion, Almaty Oblast, Kazakstan. Report prepared for the research project *Impacts of privatisation on range and livestock management in semi-arid Central Asia*. Overseas Development Institute, London.

1998

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Range and Livestock Management in the Etanga Development Area, Kunene Region: Final Report, NOLIDEP, Windhoek, Namibia.

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A Revised NOLIDEP Strategy for Sustainable Range Management in the Northern Communal Areas [of Namibia], NOLIDEP, Windhoek, Namibia (co-author J Sweet).

Guidelines for Collecting Information on Grazing Systems and the Management of Natural Resources in the Northern Communal Areas, NOLIDEP, Windhoek, Namibia.

1997

The Privatisation of Rangeland Resources in Namibia: Enclosure in Eastern Oshikoto. (co-authors J. Cox, C. Kerven and W. Werner). Overseas Development Institute, London.

Communal Areas Range Management, paper presented for the Programme for Land and Agrarian Studies, University of the Western Cape, Cape Town, RSA.

Carrying Capacity and Rangeland Degradation in Semi-arid Africa: Clearing away Conceptual Rubble. Keynote paper presented at the *International Rangelands Desertification Conference* held in Reykjavik, Iceland in Sept. 1997.

1996

The Impacts of Decollectivisation on Rangelands and Livestock Marketing in Central Asia. (co-author Carol Kerven). Proceedings of the *Small Ruminant Collaborative Research Programme Workshop on Livestock Assessment*, pages 89-105. Tashkent, Uzbekistan. Observations on NOLIDEP's Appraisal Report and Project Design, NOLIDEP, Windhoek, Namibia.

1995

Assistance in Implementation of the Agricultural (Commercial) Land Reform Act: Final Report of the International Land Tenure Consultant. Food and Agriculture Organisation of the United Nations. Windhoek, Namibia.

Grazing Systems not at Equilibrium, keynote paper presented to a symposium on *Emerging Concepts in Analysing Land-use Conditions in Semi-arid Regions*, Wageningen Agricultural University, Research Programme on Sustainable Land Use in the Tropics, Wageningen, Netherlands.

The Carrying Capacity Concept, a lecture to students and faculty at the University of Wales, Bangor.

The Future of African Pastoralism, keynote address to the VETAID annual general meeting, Edinburgh, Scotland.

The Administration of Collective Institutions for Pastoral Resource Management. Rural Resources Management Group Working Paper, ODI, London.

The Control of Communal Resources in Semi-arid Namibia: Current Trends and Policy Issues. (co-author J Cox). Rural Resources Management Group Working Paper, ODI, London.

1994

Transaction Costs and the Organisation of Indigenous African Tenure Systems, lecture to faculty and students in the Department of Economics, University of Reading, England. *Land Tenure and Range Management Institutions in the Context of Commercialisation*. Rural Resources Management Group Working Paper No. 9. ODI, London.

1993

The Economics of Pastoralism: Recent Research on Productivity and Range Ecology, (co-author C. Lane). Paper for a conference on *Pastoralism in Ethiopia*. Ministry of Agriculture, Addis Ababa.

Natural resource Management in Pastoral Africa, keynote paper presented to a *Donor/Agency Consultation Meeting on Pastoral Natural Resource Management and Pastoral Policies* organised by the United Nations Environment Programme workshop on Social Aspects of Dryland Management, Paris.

Evaluation of the Proposed Mongolian Livestock Feed Improvement Project, report submitted to the Policy Alternatives for Livestock Development Project (PALD), Institute of Development Studies, Sussex, U.K.

Pastoral Response to Drought, paper presented to the Drought Mitigation Working Group, Institute of Hydrology, Wallingford, U.K.

1992

New Directions in African Range Management Policy. Results of the workshop held at Matopos, Zimbabwe, 13-17 January 1992. Commonwealth Secretariat, London.

Range Ecology and Pastoral Development Policy, keynote paper presented at a conference organised by the Iranian Ministry of Agriculture on *Nomads and Development*, Shahrekord, Iran.

1991

Commercial Change in Pastoral Africa, lecture to the World Bank, Washington D.C. and to the Department of Range Ecology, Utah State University, Logan, Utah.

The Carrying Capacity Concept, talk given to a seminar at the School of Development Studies, University of East Anglia, U.K.

Some Issues in Pastoral Development Planning, a lecture for Livestock Economics Course to ODA staff.

Economic Models of Pastoral Land Tenure, keynote paper presented at a conference on *Rangeland Challenges in Southern Africa in the 1990s*, Pretoria, RSA.

The Environmental Causes and Economic Consequences of Migratory Stock Keeping in Darfur, Sudan, a lecture to students and faculty of the Department of Anthropology, University of London.

1990

The Effects of Commercialisation on Pastoral Production Systems, a lecture for African government officials organised by the International Livestock Centre for Africa (ILCA), Addis Ababa.

Livestock Marketing in Turkana District, report to NORAD. Mokoro Ltd, UK.

1989

The Efficiency of Input Supply: Impacts on Commercial Maize Production in Northern Province, Office of the Prime Minister and Ministry of Agriculture and Cooperatives, Kasama, Zambia. Co-author C Kerven.

1987

The Development Implications of Range Enclosure in Ceel Dheer District, Livestock Marketing and Health Project, Mogadishu, Somalia.

1985

The Dynamics of Open-Range Management and Property Rights in Pastoral Africa. Report prepared for the Overseas Development Institute, U.K., as a preliminary case study and proposal for a research project on the management of common resources.

Rangeland Development and the Improvement of Livestock Production: Policy Issues and Recommendations for the Western Savannah Project, South Darfur, Sudan, prepared for the Overseas Development Administration, UK.

1984

Herd Management Strategies among Agro-Pastoralists in the Bay Region, Somalia, Department of Sociology, University of Wyoming, published as part of the University of Wyoming Bay Region Socio-Economic Baseline Study, Somalia. Co-author C. Kerven.

1982

The Relationship between Land Tenure and Agricultural Production, paper read at Conference on Land Policy and Agricultural Production, National Institute of Research, Botswana, and United Nations University, Tokyo. Co-author: C Lightfoot.

Closing the Gap: A Re-evaluation of the Animal Production Research Unit Studies on Cattle Post and Ranch Productivity. In *Symposium on Botswana's First Livestock Development Project*, National Institute of Research, Botswana.

Cattle Accumulation and the Commercialization of the Traditional Livestock Industry in Botswana: A Re-analysis of One Aspect of the Final Consultancy Report of the Livestock

Evaluation Unit. Rural Sociology Unit, Ministry of Agriculture, Botswana.

1981

The Relationship between Crop and Livestock Production in Botswana: A Selective Review of the Literature. Rural Sociology Unit, Ministry of Agriculture, Botswana.

A Comparison of the Productivity of Traditional and Commercial Systems of Cattle Management in Botswana, paper for the Swedish International Development Agency, Botswana.

1980

Indigenous Modernization in Pastoral Cyrenaica, paper read at the African Studies Association meetings, Philadelphia.

1979

Rural Depopulation and Rural Development in Eastern Libya, 1972 to 1979, a report to the Government of Libya.

1978

Nomadic Settlement and the Development of Commercial Ranching in Eastern Libya, paper for a UNESCO expert meeting on Comparative Research on Urban-Rural Interaction, New Delhi.

1974

Voluntary Sedentarization and Residual Nomadism, paper read at the conference on Settling Nomads, Los Angeles.

Spatial Symbolism in a Bedouin Wedding Ceremony, paper read at the American Anthropological Association meetings, Mexico City.

EDITED DEVELOPMENT REPORTS

2007

Piloting the Productive Safety Net Programme in pastoral areas of Ethiopia: revised programme proposal and Pilot activities: extending the Productive Safety Net Programme into pastoral areas by Roy Behnke, Stephen Devereux, Amdisa Teshome, Mike Wekesa and Richard White. Food Security Coordination Bureau, Ministry of Agriculture and rural Development, Addis Ababa.

1991-93

A series of seven reports on communal African rangelands edited for the Food Production and Rural Development Division of the Commonwealth Secretariat.

1988

An Evaluation of Three NORAD-Funded Agricultural Research and Extension Projects in Northern Province, Zambia. Provincial Planning Unit, Kasama.

1983

Barolong Agriculture Reconsidered, Applied Research Unit, Government of Botswana, and Land Tenure Center, University of Wisconsin, Madison.

1982

Proceedings and Recommendations: Workshop on Priorities for Communal Area Livestock and Range Research. Ministry of Agriculture and the International Livestock Centre for

Africa, Botswana.

Local Institutions and Development in Botswana, Rural Sociology Report Series No 18, Ministry of Agriculture, Botswana. Co-editors: R Hitchcock, M Odell, C Kerven

DISSERTATION RESEARCH

1972-74

Ethnographic fieldwork among the Bedouin of Cyrenaica, Libya. The research examined the influence of economic and ecological variables on the functioning of a local-level political system. The study also analysed the role of Libya's oil boom in integrating rural areas into the national economy

FIELD RESEARCH

Field work among pastoralists and agro-pastoralists resulting in scientific publications has been carried out in Ethiopia, Botswana, Namibia, Sudan, Somalia, Libya, Kazakstan and Turkmenistan. Field research in Kenya, Iraq, Zambia and Mongolia has led to local publications or unpublished project reports.

HONOURS AND OTHER PROFESSIONAL ACTIVITIES

Keynote speaker at the following meetings:

- *Rangeland Challenges in Southern Africa in the 1990s*, Grassland Society of Southern Africa, Pretoria 1991
- *Nomads and Development*, Government of Iran, Shahrekord, Iran 1992
- *Pastoral Natural Resource Management and Pastoral Policies* (UNEP), Paris 1993
- Tropical Agriculture Association Residential Seminar, Cambridge 1995
- VETAID Annual General Meeting, Edinburgh 1995
- *Emerging Concepts in Analysing Land-use Conditions in Semi-arid Regions*, University of Wageningen, Netherlands 1995
- *International Desertification Conference*, Government of Iceland, Reykjavik 1997
- *Tenth Arctic Ungulate Conference*, Tromso, Norway 1999

Book manuscripts reviewed for:

Oxford University Press, Westview Press, and CABI Publications.

Journal articles refereed for:

World Development, Economic Development and Culture Change, American Ethnologist, Ethnology, Development Policy Review, Nomadic Peoples, Agricultural Systems, Human Ecology, Journal of Arid Environments, Current Anthropology.

Grant applications evaluated for:

- The Consultative Group for International Agricultural Research (CGIAR)/International Livestock Research Institute.
- USAID Collaborative Research Support Programme (CRSP) on Small Ruminants.
- Natural Resources Institute/Overseas Development Administration research programme on semi-arid livestock production
- Economic and Social Committee on Research (ESCOR under DFID)
- Economic and Social Research Council, U.K.,
- Global Change START Regional Center for Temperate East Asia
- VolkswagenStiftung

Session Convenor for the VI International Rangeland Congress in 1999, Townsville, Australia.