

Profile summary

Research interests and current position: My research interests focus on rangelands and livestock production systems in the former Soviet Union, including pastoral land tenure; migratory pastoralism; wildlife-livestock interactions in rangelands and environmental change. I am currently a Research Associate in the Department of Agricultural Policy and Market Research, Justus Liebig University, Giessen, Germany, where I am affiliated with the SDGnexus Network.

Education: PhD in Biological Sciences from the University of Warwick, UK.

Experience: I have been a registered research consultant since 2006, spending around half of my time on university-based projects and half on applied research for development projects. University-based work has included projects on pastoralism and wildlife in Central Asian rangelands at Imperial College and Oxford University in the UK, with teaching and supervision of Masters' and PhD students. I have worked as a consultant on pasture management and reform for the Asian Development Bank, the Food and Agricultural Organization of the United Nations, and The German Agency for International Development Cooperation, as well as for a number of NGOs. I was employed as research and policy advisor for the Aga Khan Foundation in Central Asia and for Oxfam in Papua New Guinea.

Skills: Statistical analysis of quantitative datasets; analysis of spatial data using GIS and satellite image analysis packages; qualitative social research methods and participatory research techniques.

Affiliations and positions: Former member of the Interdisciplinary Centre for Conservation Science, Oxford University; Associate Editor of Pastoralism Journal.

Personal details

Date of birth: 24th January 1973

Nationality: British & French

Email: sarah.robinson09@gmail.com

Address: La Cousteille, 09400 Saurat, France.

Telephone: +33 (0) 5 61059442 (landline) or +33 (0) 780359360 (mobile)

Education

1991-1994. Degree in Biology with European Studies, University of Sussex (UK) and Université de Joseph Fourier, Grenoble, France. Degree passed with First Class Honours.

1996-2000. PhD at University of Warwick, Dept. of Biological Sciences, Ecosystems Analysis and Governance Unit. *Title: Pastoralism and Land Degradation in Kazakhstan.* Research included rangeland degradation assessment, modelling of climate-range-livestock interactions and analysis of the impact of transition on pastoral systems, undertaken as part of the EU INTAS project 'Land Degradation and Agricultural Change on the Rangelands of Kazakhstan'.

Professional experience

Academic research, teaching and student supervision (as independent contractor or research associate)

Mar 2022-present. **Research associate** in the Department of Agricultural Policy and Market Research, Justus University, Giessen. I continue to conduct teaching and research activities on livestock production systems in Central Asia as part of the team at the chair of Agricultural, Food and Environmental Policy and with the SDG^{nexus} Network (see below).

Mar 2020 - Dec 2021 (part time). **Research consultant** at the Center for International Development and Environmental Research, Justus Liebig University, Giessen for the SDG^{nexus} Network funded by the German Academic Exchange Service (DAAD) from funds of Federal Ministry for Economic Cooperation (BMZ). As part of this international collaborative project, I co-produced a research review on trade-offs amongst the Sustainable Development Goals in the Central Asian livestock sector, contributed to the project research agenda, and conducted research on livestock system intensification based on farm surveys.

May 2017- Dec 2019 (part time). **Research consultant** at the Leibniz Institute of Agricultural Development in Transition Economies for the project 'Revitalising animal husbandry in Central Asia: A five-country analysis' funded by the German Ministry of Education and Research. Inputs included concept design; field survey piloting; contribution to academic publications and provision of lectures and exercises for a summer school associated with the project.

Aug 2015-Feb 2017 (part time). **Research consultant** for the Royal Veterinary College of London, and the Saiga Conservation Alliance on the NERC-funded project 'Saiga antelope mortality in Kazakhstan 2015: emergency investigation of disease outbreak to improve knowledge of drivers'. As part of a multi-institution team studying the causes of mass mortality events in saigas, my role included compilation of an evidence review; spatial modelling of environmental risk factors associated with mortality events; field research into livestock distributions in the saiga range; and provision of support to MSc and PhD students.

Nov 2015 & Feb 2017 (short inputs). **Analyst** for Tufts University supporting the Sudan Humanitarian and Resilience Programme. Tasks included analysis of livestock GPS collar data and environmental data with the aims of understanding the drivers of movement of nomadic herders in Darfur and supporting the publication of this work in a peer reviewed journal.

Nov 2011-Sep 2015 (part time). **Research associate** at Imperial College London as part of a team studying the factors driving the spatial distribution of domestic livestock in Central Asia. The role included combining field data from interviews with GIS and remotely sensed data to identify and model factors behind livestock movements both today and in the past. During this period, I designed and delivered a module on remote sensing for the Masters in Conservation Science and supervised two MSc students.

Consultancy for development projects (as independent contractor)

Dec 2021 – Jun 2022 (short inputs) **Consultant on pastoral reform for the Regional Environmental Centre for Caucuses.** As part of a Global Environment Facility-funded project, I provide advice to the Working Group on Pastoral Reform and contribute to the development of a National Pasture Management Policy.

Jan 2021 – Jul 2021 (short inputs) **Consultant on livestock and pastoral systems** for the Food and Agriculture Organisation of the United Nations for the Central Asian Countries Initiative for Land Management (CACILM II). The project aimed to pilot pasture use planning processes in Kazakhstan to

which I contributed international experience and technical advice on pasture management policy, strategic planning, legislation and organizational reform.

May 2014- Dec 2020 (short inputs). **International pasture consultant** for the German Agency for International Cooperation (GIZ). This set of multiple assignments for the GIZ regional programme in Central Asia included inputs to the design and piloting of pasture law for Turkmenistan; organisation of a Central Asian conference on pasture management; and development of a web-based regional pastoral knowledge exchange network.

Sep 2018 – Jan 2019 (short inputs). **Pasture expert** for the Economics of Land Degradation Initiative in Georgia. The role included legal and institutional analysis of Georgian pasture management systems; support for economic analysis of management scenarios and production of a policy brief based on results.

Nov 2009 - Jan 2010. **Pasturelands consultant** for the design phase of an FAO project in Tajikistan. Through desk studies and interviews with key stakeholders, the study aimed to estimate the carrying capacity of pastures in the Pamir Mountains in relation to current stocking rates, and to identify obstacles to their sustainable management.

May 2007- Mar 2010 (short inputs). **Data analyst** for EC Sixth Framework project 'Range Enclosure on the Tibetan Plateau of China'. This project aimed to measure the impact of range enclosure on pastoral livelihoods and livestock management practices. Inputs included the creation and management of a database for field data on pasture condition and use, but the project was discontinued before data collection was completed.

Jan 2009-Sep 2009. **Consultant** for HTSPE Consulting on the EC project 'Aid Effectiveness Agenda: The Benefits of a European Approach'. Work involved identification and quantification of the economic and social costs associated with current patterns of international aid provision.

Oct 2008-Nov 2008. **Consultant** on climate change and land management in Central Asia for the GIZ contribution to the UN Convention to Combat Desertification. This desk study included an assessment of regional climate change scenarios and mitigation and adaptation strategies, with an emphasis on rangelands.

Nov 2007-Dec 2007. **Pasturelands ecologist** for inception phase of the ADB Agricultural Land Improvement Project, Kyrgyzstan. Tasks included situation analysis and recommendations for community-based pasture lands management.

Jul 2007-Aug 2007. **Pasturelands consultant** on pasture tenure and condition for the Mountain Societies Development Support Programme in Tajikistan. The research examined both social and environmental aspects of pastoral land use change.

Oct 2006-Jun 2007 (short inputs). **Environmental expert**, Zerafshan Valley, Tajikistan. An analysis of factors affecting quality of soils, pastures and forests was undertaken on behalf of German Agro Action for the World Bank Community Agriculture and Watershed Management Project.

Feb-Sep 2006. **Data analyst and writer** for The Aga Khan Foundation: Production of series of analytical papers based on large household surveys co-ordinated in Tajikistan and Kyrgyzstan between 2002 and 2005. Papers focussed on income mobility, livelihoods and land reform.

Jan 2006. **Monitoring and evaluation consultant** for GIZ in Badken district of Kyrgyzstan to set up a monitoring and evaluation system for a rural development project.

Nov 2000 - Jun 2001. **Project facilitator** for the inception phase of the DFID project 'Sustainable Livelihoods for Livestock Producing Communities', Kyrgyzstan. The work included participatory rural appraisal of project villages and inputs into project design. A four-week consultancy was completed on pasture condition and land tenure in the pilot villages.

Staff member working for development projects (as employee)

Jan 2010 – Oct 2011. **Research and policy advisor** for the Oxfam Highlands Programme in Papua New Guinea. Role included management and mentoring of a team of young researchers, providing Oxfam and its partners with research services to improve understanding of the development context and to provide an evidence base for advocacy. Topics included benefit sharing in natural resource extraction projects; intergovernmental financing for climate change; and the determinants of interpersonal violence.

Feb 2002 - Dec 2005. **Policy and evaluation advisor** to the Mountain Societies Development Support Programme (a project of the Aga Khan Foundation) in Tajikistan. Work consisted of managing and training a local team to conduct monitoring, evaluation and research to inform rural development and agricultural programming. The role included supervision of five large quantitative household surveys covering income, access to land and agricultural systems in both Tajikistan and parts of Kyrgyzstan.

Languages spoken

English	Native language.
French	Spoken fluently, high level of reading and writing.
Russian	Spoken fluently, good reading skills including scientific papers and reports.
Tajik	Conversational, basic reading and writing using Cyrillic script.

Computer and statistics skills

High level of familiarity with Word for Windows, Excel, Access, SPSS, STATA, ARCGIS, 'R statistical computing package', QGIS and ENVI.

Publications in peer-reviewed journals and books

Khanyari, M., E. J. Milner-Gulland, R. Oyanedel, H. R. Vineer, N. J. Singh, S. Robinson, A. Salemgareyev and E. R. Morgan. 2022. Investigating parasite dynamics of migratory ungulates for sustaining healthy populations: Application to critically-endangered saiga antelopes *Saiga tatarica*. *Biological Conservation*, 266: 109465.

Robinson, S., Z. Bozayeva, N. Mukhamedova, N. Djanibekov and M. Petrick. 2021. Ranchers or pastoralists? Farm size, specialisation and production strategy amongst cattle farmers in south-eastern Kazakhstan. *Pastoralism Journal*, 11 (31).

Khanyari, M., S. Robinson, E. J. Milner-Gulland, A. Salemgareyev and E. R. Morgan. 2021. Mapping relationships between multi-scale factors to explore ungulate health in a Central Asian rangeland. *People and Nature*, 00: 1–18.

- Khanyari, M., S. Robinson, E. R. Morgan, T. Brown, N. J. Singh, A. Salemgareyev, S. Zuther, R. Kock and E. J. Milner-Gulland. 2021. Building an ecologically founded disease risk prioritization framework for migratory wildlife species based on contact with livestock. *Journal of Applied Ecology*, 58 (9): 1838-1853.
- Kerven, C., S. Robinson and R. Behnke. 2021. Pastoralism at scale on the Kazakh rangelands: From clans to workers to ranchers. *Frontiers in Sustainable Food Systems*, 4 (298).
- Ventresca Miller, A. V., R. N. Spengler, A. Haruda, B. K. Miller, S. Wilkin, S. Robinson, P. Roberts and N. Boivin. 2020. Ancient pastoralist ecosystem engineering in northern Central Asia. *Frontiers in Earth Science*, 8 (168).
- Behnke, R., S. Robinson, H. Sulieman, A. Omer and H. Young. 2020. The seasonal imperative: Environmental drivers of livestock mobility in East Darfur, Sudan. *Land Use Policy*, 99.
- Robinson, S., E. J. Milner-Gulland, Y. Grachev, S. Zuther, M. Orynbayev, A. Lushchenkina, E. Morgan, W. Beauvais, N. Singh, S. Khomenko, R. Cammack and R. Kock. 2019. Opportunistic bacteria and mass mortality in ungulates: lessons from an extreme event. *Ecosphere*, 10 (6).
- Kock, R., Orynbayev, M., Robinson, S., Zuther, S., Singh, N., Beauvais, W., Morgan, E. R., Kerimbayev, A., Khomenko, S., Martineau, H., Rystaeva, R., Omarova, Z., Wolfs, S., Hawotte, F., Radoux, J. & Milner-Gulland, E. J. 2018. Saigas on the brink: multi-disciplinary analysis of the factors influencing a mass die-off event. *Science Advances*, 4 (1).
- Robinson, S., Jamsranjav, C. & Gillin, K. 2017. Pastoral property rights in Central Asia: Factors and actors driving the reform agenda. In: Elie, M. & Ferret, C. (eds.) *Verte la Steppe?*. Éditions de l'EHESS.
- Robinson, S., Kerven, C., Behnke, R., Kushenov K., & Milner-Gulland, E.J. 2017. Pastoralists as optimal foragers? Reoccupation and site selection in the deserts of post-Soviet Kazakhstan. *Human Ecology*, 45: 5-21.
- Behnke, R., Robinson, S. & Milner-Gulland, E. J. 2016. Governing open access: livestock distributions and institutional control in the Karakum Desert of Turkmenistan. *Land Use Policy*, 52: 103-119.
- Kerven, C., Robinson, S., Behnke, R., Kushenov K. & Milner-Gulland, E. J. 2016. Horseflies, wolves and wells: biophysical and socio-economic factors influencing livestock distribution in Kazakhstan's rangelands. *Land Use Policy*, 52: 392-409.
- Kerven, C., Robinson, S., Behnke, R., Kushenov, K. & Milner-Gulland, E. J. 2016. A Pastoral frontier: from chaos to capitalism and the recolonisation of the Kazakh rangelands. *Journal of Arid Environments*, 127: 106-119.
- Robinson, S., Kerven, C., Behnke, R., Kashenov, K. & Milner-Gulland, E. J. 2016. The changing role of bio-physical and socio-economic drivers in determining livestock distributions: a historical perspective from Kazakhstan. *Agricultural Systems*, 143: 169-182.
- Robinson, S. 2016. Land degradation in Central Asia: evidence, perception and policy. In Behnke, R. & Mortimore, M. (eds.): *The End of Desertification? Disputing Environmental Change in the Drylands*, Springer Earth System Science.
- Robinson, S., Wiedemann, C., Michel, S., Zhumabayev, Y. & Singh, N. 2012. Pastoral tenure in Central Asia: theme and variation in the five former Soviet republics. In: Squires, V. (ed.) *Rangeland Stewardship in Central Asia: Balancing Improved Livelihoods, Biodiversity Conservation and Land Protection*. Springer.
- Kopi M., Hinton R., Robinson S., Maiap S. & Guman Y. 2011. Insecurity in the Southern Highlands: the nature, causes and consequences of violence in Hela Region. *State, Society and Governance in Melanesia Discussion Paper 2011/3*. Australian National University, Canberra.

- Robinson, S. and Whitton, M. 2010. Pasture in Gorno-Badakhshan, Tajikistan: common resource or private property? *Pastoralism*, 1(2).
- Robinson, S., Whitton, M., Biber-Klemm, S. & Muzofirshoev, N. 2010. The impact of land reform legislation on pasture tenure in Gorno-Badakhshan: from Common resource to private property? *Mountain Research and Development*, 30 (1): 4–13.
- Robinson, S., Higginbotham I., Guenther, T. & Germain, A. 2010. Causes and consequences of regional variation in land reform in Tajikistan. *Journal of Central Asian Studies*, IX (1): 16-36.
- Robinson, S., Higginbotham I., Guenther, T. & Germain, A. 2008. Land reform in Tajikistan: consequences for tenure security, agricultural productivity and land management practices. In Behnke, R. (ed.) *The Socio-economic Causes and Consequences of Desertification in Central Asia*. NATO Science Series, Springer.
- Robinson, S. and Guenther, T. 2007. Rural livelihoods in three mountainous regions of Tajikistan. *Post Communist Economies*, 19 (3): 359-378.
- Robinson, S., Milner-Gulland, E. J. & Alimaev, I. 2003. Rangeland degradation in Kazakhstan during the Soviet era: re-examining the evidence. *Journal of Arid Environments*, 53(3): 419-439.
- Robinson, S. and Milner-Gulland, E. J. 2003. Political change and factors limiting numbers of wild and domestic ungulates in Kazakhstan. *Human Ecology*, 31(1): 87-110.
- Robinson, S. and Milner-Gulland, E. J. 2003. Contraction in livestock mobility resulting from state farm re-organisation. In Keven, C. (ed.) *From State Farm to Private Flocks: Prospects for Pastoralism in Kazakhstan and Turkmenistan*. Routledge Curzon Press, London.
- Robinson, S., Finke, P. & Hamann, B. 2000. The impacts of de-collectivisation on Kazakh pastoralists: Case studies from Kazakhstan, Mongolia and the People's Republic of China. *Journal of Central Asian Studies*, IV(2): 2-34.

Selected consultancy reports, working papers and conference contributions

- Robinson, S. 2021. *The Economics of Land Degradation in Georgia: Pasture Management. Legal and Institutional Analysis*. GIZ: Bonn, Germany.
- Westerberg, V., S. Robinson, E. Stebbings, L. Costa and P. Visetti. 2021. *Economics of Land Degradation Initiative: The economics of pasture management in Georgia*. GIZ: Bonn, Germany.
- Robinson, S., J. Bozayeva, N. Mukhamedova, N. Djanibekov, D. Oshakbayev and M. Petrick. 2021. Obstacles to the revival of mobile grazing systems in Kazakhstan. in *Proceedings of the Joint XXIV International Grassland & XI International Rangeland Congress*, October 2021, Nairobi, Kenya.
- Robinson, S. and M. Petrick. 2021. *Trade-offs among sustainability goals in the Central Asian livestock sector: A research review*. SDGnexus Network Working Paper No 1. Center for international Development and Environmental Research (ZEU), Justus Liebig University, Giessen.
- Robinson, S. 2020. *Livestock in Central Asia: From rural subsistence to engine of growth?* IAMO Discussion Paper 193. IAMO, Halle.
- Robinson, S., Gardashev, A., Atahanov, G., Akiniyazov, A., Mamedov, E., Abdurasulova, G. and Durikov, M. 2018. Building the resilience of Turkmen pastoralists to environmental variability. *La Revue du Centre d'Etude et de Recherche de Djibouti: Science et Environnement*, 33, 26-42.
- Young, H., Behnke, R., Sulieman, H., Robinson, S. & Mohamed, A. 2016. *Risk, Resilience, and Pastoralist Mobility*. Feinstein International Center, Tufts University.

Robinson, S. 2015. *Pasture Management in Central Asia: Lessons from the First Practitioners' Conference on Advancement of Sustainable Pasture Management in Central Asia*. Bishkek 17-19 November 2014. EU FLERMONECA project/GIZ.

McIlraith J., Robinson S., Pyrambone L. L., Petai L., Sinebare D., and Maiap S. 2012. *The Community Good: Examining the Influence of the PNG LNG Project in the Hela Region of Papua New Guinea*. University of Otago.

Robinson S. 2010. *Carrying Capacity of Pasture and Fodder Resources in the Tajik Pamir*. Report for the FAO.

Carlsson B, Buhigas-Schubert C. and Robinson S. 2009. *The Aid Effectiveness Agenda: Benefits of a European Approach*. Report for the European Commission (DG-Development).