

PhD Opportunity

Building social-ecological resilience to human-wildlife conflict in western Ethiopia

Supervisory team: Professor Alan Dixon, Dr John Dutton

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Research Group: [Sustainable Environments Research Group \(SERG\)](#)

The PhD Opportunity

Crop-raiding by wild animals poses a significant livelihood challenge to rural communities worldwide, especially in sub-Saharan Africa where population pressure, environmental and socio-economic change is driving the encroachment of farming into new areas that puts people in conflict with wildlife. Much research in recent decades has drawn attention to the impacts of this conflict on food security, poverty, and wildlife themselves, especially in relation to the conservation and management of large wildlife reserves, national parks, and for flagship conservation species such as elephants. Less well understood, however, are the more long-term, chronic and inter-related social-ecological impacts of animal predation on agriculture and livestock, and the reciprocal adaptation and coping strategies of smallholder farmers.

In western Ethiopia, a combination of population growth, climate change, economic growth, and a range of government policies, has in recent decades driven farmer encroachment into seasonal wetlands that provide critical sources of water during dry periods of the year. This expansion of wetland agriculture has resulted in significant food security and livelihood gains for farmers, but the use of these marginal areas has also brought people into closer proximity with wild animals, whose montane rainforest habitat surround wetlands.

While previous research in the area (Dixon et al, 2009; Quirin and Dixon, 2012) highlighted the wetland crop-raiding behaviour of wild animals and its consequences for the sustainability of farmers' livelihoods, it also acknowledged the need for further research to explore farmers' responses to crop raiding and its subsequent impacts on animals, within the context of evolving government conservation, environmental management and development policies. Recent reports from the area suggest that crop-raiding remains the main threat to food security, yet still little is being done to address the problem (Dixon et al. 2021).

The aim of this PhD is to address this specific gap in our understanding of the social-ecological dynamics of human-wildlife conflict in western Ethiopia. Using a social-ecological framework, the PhD will explore:

- a) Spatial and temporal patterns of crop-raiding behaviour and the implications for food security for the region.
- b) Farmer adaptation strategies, their impacts, effectiveness, as well as the barriers and facilitators to adaptation that inform our understanding of social-ecological resilience.
- c) Development of a social-ecological systems model of human-wildlife conflict in the area.
- d) The potential for social-ecological systems thinking to inform better development and policy interventions at the grassroots level that can deliver win-win outcomes for conservation and development.

It is envisaged that the PhD will involve extensive travel and lengthy periods of fieldwork in western Ethiopia in order to facilitate a programme of participatory action research with stakeholders. The cost of this is likely to be in the region of £10,000.

References

Dixon AB, Wood AP, & Hailu, A (2021) Wetlands in Ethiopia: lessons from 20 years of research, policy and practice. *Wetlands* 42, 20. <https://doi.org/10.1007/s13157-021-01420-x>

Quirin, C & Dixon, AB (2012) Food security, politics and perceptions of wildlife damage in Western Ethiopia. *International Journal of Pest Management*, 58, 2, p101–114. <https://doi.org/10.1080/09670874.2012.667583>

Dixon, AB, Hailu, A, Semu, T, & Taffa, L (2009) Local responses to marginalisation: human-wildlife conflicts in Ethiopia's wetlands. *Geography*, 94, 1, p38-47. <https://doi.org/10.1080/00167487.2009.12094250>

Application Process

To begin the application process please go to <https://www.worc.ac.uk/research/research-degrees/applying-for-a-phd/>.

The Interview

All successful applicants will be offered an interview with the proposed Supervisory Team. You will be contacted by a member of the Doctoral School Team to find a suitable date. Interviews can be conducted in person or over Microsoft Teams.

Funding your PhD

For information about Doctoral Loans please visit: <https://www.worc.ac.uk/study/fees-and-finance/doctoral-loans.aspx>

During your PhD you can access the Research Conference Support Scheme to support the costs of presenting your research at an external conference.

Research at the University of Worcester

Research is central to the University's mission to make a difference in everything that we do. We are committed to delivering excellent research which extends the boundaries of human knowledge but which also improves people's lives by enabling better health outcomes, improving food security, developing environmentally sustainable solutions for crop production and socially sustainable solutions to our ageing population, enhancing public knowledge and understanding of the past and present.

The University hence focuses its research around five high-level challenges facing society, locally, nationally and globally:

- [Human Health and Wellbeing](#)
- [Sustainable Futures](#)
- [Digital Innovation](#)
- [Culture, Identity and Social Exclusion](#)
- [Professional Education](#)

The success of our research is reflected in our continuous improvement in external research assessment processes. In the most recent Research Excellence Framework, REF 2021, the University saw a near 50% increase in the scale of its research and 12% increase in quality, building on its performance in REF 2014 when it was the UK's most improved university in terms of Research Power, a combination of scale and quality.

Research Degrees at Worcester

Our research students are central to our overall mission for research. They are working at the cutting edge of their disciplines and driving forward the quality of our research whilst enriching our research culture. We are looking to increase our research student numbers as a strategic imperative.

Our commitment to our students is reflected in the results of the Postgraduate Research Experience Survey 2023 in which we ranked 3rd for overall research student satisfaction nationally. Key to our success in this area is the Doctoral School, a focal point for all our research students.

It provides:

- day-to-day support for our students, both administrative and practical, through our dedicated team.
- a Research Student Study Space with both PCs and laptop docking station.
- a comprehensive Researcher Development Programme for students and their supervisors.
- a programme of student-led conferences and seminars.

Research Group

The Sustainable Environments Research Group (SERG) supports and promotes transdisciplinary research at the environment-society interface, and contributes to the University of Worcester's [Sustainable Futures](#) strategic area of challenge and more widely the UN's Sustainable Development Goals (SDGs). SERG's research draws upon expertise from a range of disciplines including ecology, conservation, natural resource management, river science, rural and urban development, health and wellbeing, climate change, and sustainable development itself. Our impact-driven research in recent years has addressed many of the key challenges facing society and the environment, such as climate change adaptation and mitigation, flood management, air quality, enhancing biodiversity in vulnerable environments, developing climate-smart sustainable agriculture, and delivering sustainable development in the global south.

Widening Participation

As part of its mission statement the University is committed to widening participation for its higher degrees. Although most candidates will have an undergraduate and/or a Masters degree, the University is happy to accept applications from candidates with relevant professional qualifications and work related experience.

For further information or an informal discussion on this project, please contact Professor Alan Dixon: a.dixon@worc.ac.uk