

## Knowledge Frontiers: International Interdisciplinary Research 2020

### List of Award-Holders

**Reference:** KF400136

**PI:** Dr Stroma Cole, University of the West of England

**Value:** £157,726.00

**Title:** Water Insecurity and Gender-Based Violence: Exploring Links and Steps for Prevention. A Comparative Study of Indonesian and Peruvian Women

**Abstract:** Gender-based violence is one of the most prevalent public health threats in the world today, with as many as one out of every four women affected. As water insecurity continues to grow, will women be at greater risk from domestic violence? This project uses mixed methods to examine whether water insecurity is associated with gender-based violence and if so, under what circumstances. Specifically, the research team is looking to extend HWISE (<https://hwise-rcn.org/>) - a cross-culturally validated, internationally-used scale - to explore household-level water insecurity and add a section dedicated to gender-based violence. A quantitative survey will be combined with story-telling and participative workshops with health and water management practitioners to investigate policies and practices that contribute to women's vulnerability or resilience.

**Reference:** KF400220

**PI:** Dr Amy Penfield, University of Bristol

**Value:** £196,018.00

**Title:** Energy Resilience: Exploring the Cultures, Politics and Practices of Energy Access in Amazonia

**Abstract:** This project seeks to forge an approach to 'energy resilience' in off-grid locations through interdisciplinary qualitative and quantitative research working directly with people in Amazon forest communities. The research team brings together knowledge from anthropology, engineering, sociology and geography to develop an analytical and practical approach to everyday resilience through the lens of energy access in light of social, political and cultural realities. In Amazonia, one of the most remote areas of the world, many inhabitants are well-adapted to its topographical and environmental challenges, but it is becoming increasingly evident that barriers to energy access have knock-on effects in areas of healthcare, education, democratic participation and equitable access to rights and services. By focusing on the needs, capacities and understandings of communities, this project seeks to empower local people by facilitating greater involvement in development opportunities that recognise the importance of viewing resilience as a way of life.

**Reference:** KF400222

**PI:** Dr Anna Walnycki, International Institute for Environment and Development

**Value:** £199,266.00

**Title:** Grassroots Insights into Urban Risk: Creating Interdisciplinary Pathways to Resilience in Dar es Salaam

**Abstract:** Although informal settlements face multiple risks often rooted in poor-quality shelter, inadequate services and unresponsive local governance, these challenges are usually tackled in sectoral silos without the voices or detailed knowledge of residents themselves. But residents of informal settlements already have in-depth insights into key risks, while community-led data-collection can provide the basis for partnerships with official stakeholders to enhance resilience. During this project in Dar es Salaam, UK-based interdisciplinary researchers will work with Tanzanian grassroots organisations to examine multiple risks in informal settlements, including secondary data-analysis and additional

participatory action research. While focusing on inadequate sanitation and solid waste management, the team's analysis will look to encourage intersectoral strategies and create a platform for inclusive, co-produced interventions with government actors to foster resilience to multiple risks. The project is seeking to promote local buy-in as well as broader replicability by using the partners' existing networks, novel communications outputs and South-South learning opportunities.

**Reference:** KF400226

**PI:** Dr Keith Hyams, University of Warwick

**Value:** £199,335.95

**Title:** Technological Risks in Development: Food Security, Super-Wicked Problems and the Decolonisation of Technological Governance

**Abstract:** Food insecurity, caused by increases in global population, loss of arable land due to climate change and conflicts, poses a major risk to human lives and well-being, especially in the Global South. It is thus essential to ensure that agricultural production is effective, efficient and sustainable. This project is seeking to investigate how technologies that have been introduced as solutions to food insecurity have contributed to the creation of new technological risks and how such double-edged technologies should be governed. The research team focuses on two technological risks in this context, namely the loss of biodiversity and disruption of ways of life as a result of the introduction of GMO crops and the rise of antimicrobial resistance as a result of the over- and misuse of antibiotics to combat communicable diseases in crops and livestock.

**Reference:** KF400238

**PI:** Dr Ayesha Siddiqi, University of Cambridge

**Value:** £184,846.83

**Title:** El Niño and Flash Floods in Peru: Bringing Knowledge on “Furia de los Rios” and “Western Science” to Understand Lag Time

**Abstract:** This project seeks to bridge disciplinary divides to better understand the lag time between peak rainfall and peak flow (occurrence of flash flood) when anticipatory policy action can be taken to reduce damage and destruction. The research team is looking to examine how local and cultural knowledge production on disasters takes place and bring it into conversation with hydrological analysis that has traditionally dominated knowledge production on lag times. The field site for this project will be Piura, a city on the north coast of Peru, with a rich history of local and indigenous knowledge on floods, that still continues to be devastated by floods on a regular basis.

**Reference:** KF400251

**PI:** Dr Shilpi Srivastava, Institute of Development Studies

**Value:** £198,107.00

**Title:** Anticipating Futures: Forecasting and Climate Preparedness for Co-Located Hazards in India (ANTICIPATE)

**Abstract:** This project examines how different actors forecast and prepare for co-located hazards under conditions of climatic uncertainty, and whether and how these practices can be integrated for building preparedness. Despite significant advances in seasonal forecasting of extreme events and efforts to improve preparedness, existing studies have demonstrated that new patterns of extreme events, such as the co-occurrence of floods and droughts – or ‘co-located hazards’ - will require significant changes in institutional processes and mindsets. ANTICIPATE seeks to investigate how diverse actors can work together to address such changing patterns of extreme climatic events in locally grounded and appropriate ways. The focus will be on the Indian state of Gujarat, where extreme variability (floods and droughts) has pushed pastoralists and dryland farmers to the limits of coping. Integrating

ethnographic, participatory and creative approaches with atmospheric modelling, ANTICIPATE is an interdisciplinary and transdisciplinary collaboration between academics, disaster specialists and local artists across the UK and India.

**Reference:** KF400306

**PI:** Dr Sarah Hartley, University of Exeter

**Value:** £199,998.00

**Title:** Inclusive and International Risk Assessment: Building a Framework for Gene Drive Organisms Through Collaboration

**Abstract:** Current governance efforts for gene drive technology are focused on the development of a risk assessment framework which will outline the basic steps and requirements for the assessment of hazards and risks from gene drive organisms released into the environment. Through the efforts of a small group of experts, an exclusive risk assessment framework is emerging and likely to be embedded into national contexts within a few years. In response to international calls for opening-up gene drive governance, this research team is looking to address the urgent need to understand the different ways in which a risk assessment framework might be configured based on an inclusive and reflexive process before this window of opportunity closes. The aim is to build an international and inclusive risk assessment framework that reflects the multiple understandings of hazard and risk gathered from academic, professional and lay actors, and that includes opportunities for participation in future risk assessments.