

# **Tackling Global Sustainable Development Challenges: Connecting disciplines, engaging partners**

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**Leveraging Research Partnerships for Global Challenges  
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# Global development challenges in a complex world

Epidemics, AMR



Climate change



Urbanisation

***Risks and uncertainties***  
***Short-term shocks, long-term stresses***  
***Cross-scale interactions***  
***Technical, social and political dimensions***



Insecurity,  
extremism,  
migration

# Embraced in Agenda 2030 – and beyond



SDGs – and their interconnections, synergies and tensions



Modelling the future we want

Finding transformational pathways

## What sort of science is needed?

- **Problem- and solution-focused**
- **Interdisciplinary** - across diverse social and natural sciences
- **Transdisciplinary** - engaged with policy, practice and society, including in real-time
- **Globally** alert, yet **locally grounded and community-engaged**
- Conducted through equal **partnerships**

# IDS – engaged science for global development

Our vision is of equal and sustainable societies, locally and globally, where everyone can live secure, fulfilling lives free from poverty and injustice.

***IDS Strategy 2015-20***

**2017 Global Go-To Think  
Tanks Index:**

2nd International  
development Think Tank

4th University-linked Think  
Tank



A **COMMUNITY** of dedicated  
development professionals



A centre of **ACADEMIC  
EXCELLENCE** in research and teaching



A global hub of  
**KNOWLEDGE and  
EVIDENCE** mobilisation



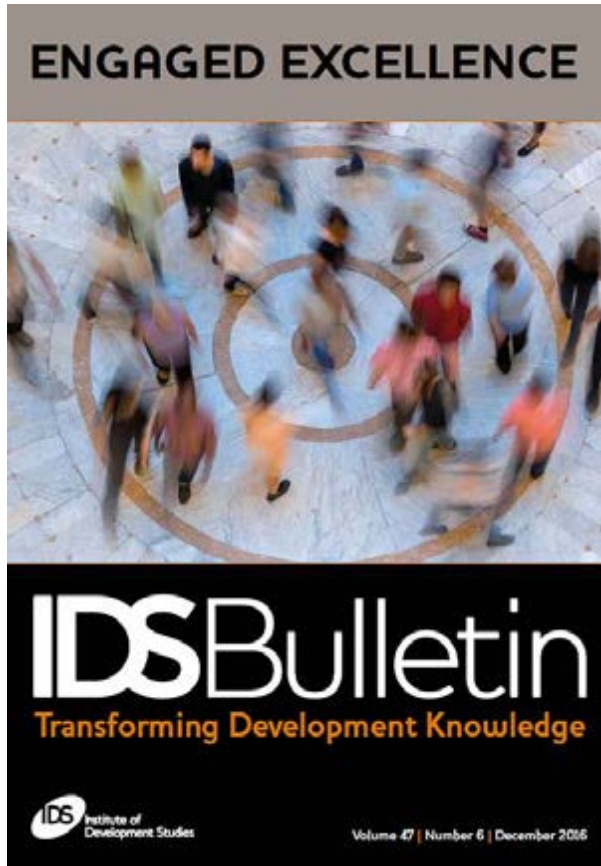
Part of a **GLOBAL NETWORK**  
of partnerships



# Engaged Excellence

Engaged excellence is IDS' distinctive approach to constructing and mobilising knowledge, and to teaching and mutual learning for development.

Engaged excellence means that the high quality and impact of our work depend upon us engaging and working with governments and parliaments, international NGOs and local civil society, communities and citizens to achieve positive transformative change, strategically informed by research, evidence and knowledge.



# Four pillars of engaged excellence - some examples

## *The Dynamic Drivers of Disease in Africa Consortium*



### High quality research and science

#### Problem focused:

To reduce the risks of zoonotic diseases and the negative consequences for poor people in Africa, by ensuring that ecosystems are managed sustainably in ways that assure disease regulation while avoiding negative trade-offs for livelihoods.



Kenya: Rift Valley Fever  
Zambia and Zimbabwe: Trypanosomiasis  
Ghana: henipavirus  
Sierra Leone: Lassa fever



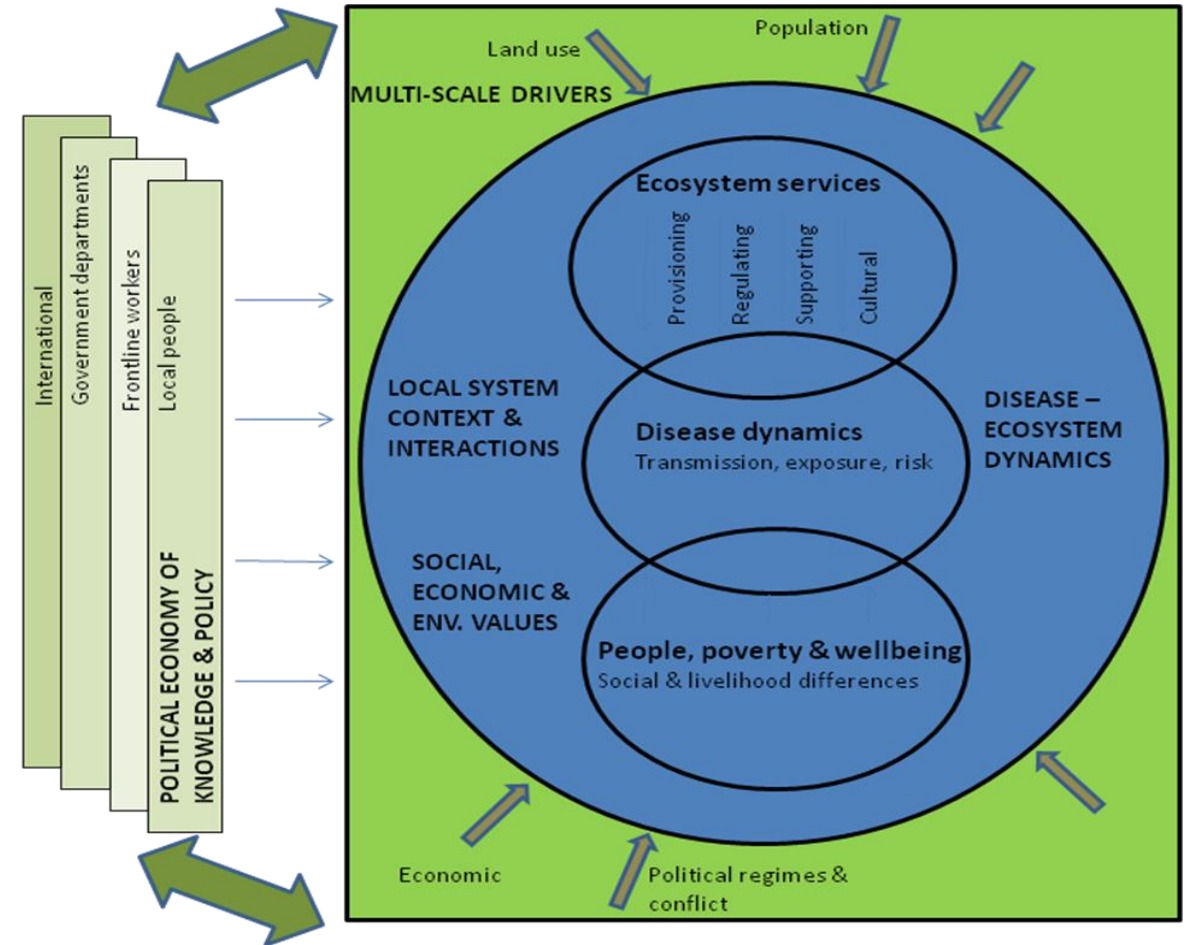


# Interdisciplinary

**Untangling interactions** through new knowledge of environment and ecology; human/animal health and epidemiology; people's behaviour and understandings

**Social science as integral**, not afterthought

**Triangulating amongst modelling approaches:** pattern-based, process-based, participatory





# Co-constructing knowledge, transdisciplinary science

DDDAC partners – universities, government agencies – co-developed questions, co-collected data, co-communicated findings

- IDS/ESRC STEPS Centre, UK
- University of Cambridge, UK
- Institute of Zoology, UK
- University of Edinburgh, UK
- University College London (UCL), UK
- Wildlife Division of the Forestry Commission, Ghana
- University of Ghana, Ghana
- Department of Veterinary Services, Kenya
- International Livestock Research Institute (ILRI), Kenya
- Kenya Medical Research Institute (KEMRI), Kenya
- University of Nairobi, Kenya
- Kenema Government Hospital, Sierra Leone
- Njala University, Sierra Leone
- Ministry of Livestock and Fisheries Development, Zambia
- University of Zambia, Zambia
- Ministry of Agriculture, Mechanisation and Irrigation Development, Zimbabwe
- University of Zimbabwe, Zimbabwe
- Stockholm Resilience Centre, Sweden
- Tulane University, USA



Co-constructing knowledge with communities – participatory research on disease categories, human-animal interactions



# Mobilising evidence for impact

## Novel findings with development implications:

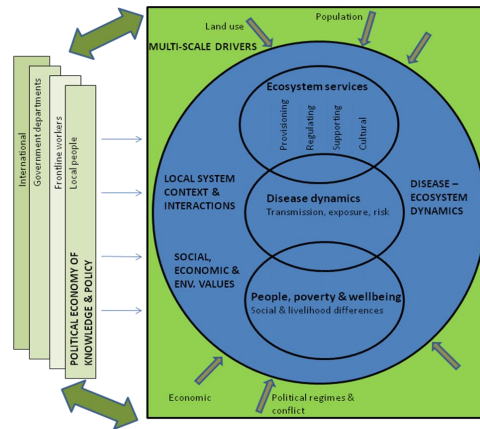
eg. in Zimbabwe, Tsetse flies and HAT cases focused in landscape patches where poor users vulnerable  
=> target eradication, livelihood interventions to reduce vulnerability

eg. women's dry season swamp rice and vegetable gardens a key focus of Lassa virus transmission risk  
=> Integrate crop protection from rodents and disease control; involve women

‘One Health’  
research-impact  
pathways,  
facilitated by  
transdisciplinarity



Participatory  
Impact Pathways  
Analysis (PIPA)



Practical  
techniques



Integrated  
policy  
interventions



Surveillance  
approaches



Institutions

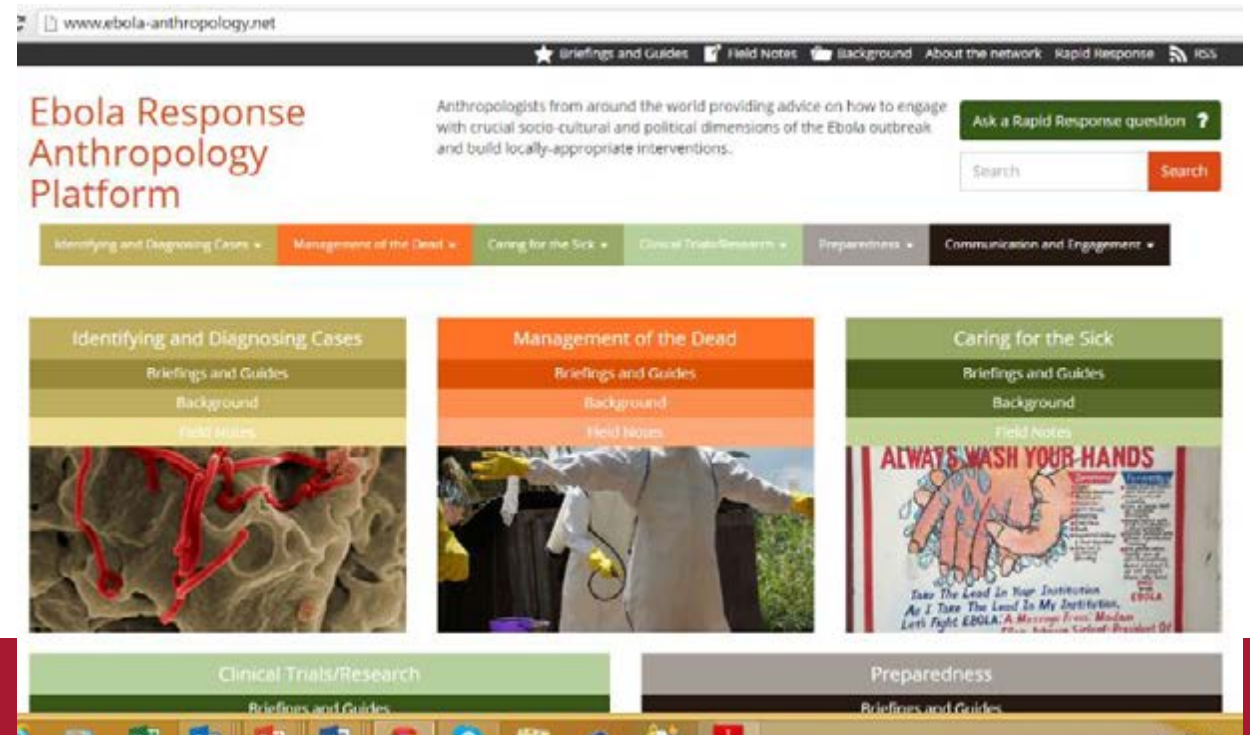




# ... and mobilising evidence for impact in real-time: *The Ebola Response Anthropology Platform*

*ESRC Celebrating International Impact prize 2016*  
*DFID, Wellcome Trust, SCF R2HC programme*

Ebola outbreak 2014-15 in West Africa: international emergency response initially floundered, partly for socio-cultural reasons. Local resistance, violence to health workers  
Response by anthropologists from IDS, Sussex, LSHTM, Exeter, Njala University Sierra Leone, building on long-term research and partnerships in Sierra Leone-Guinea-Liberia



- Integrated long-term, in-depth social science research and local knowledge around: transmission dynamics, care for the sick, burial practices, vaccine and therapy trials, local social and cultural relations, inequalities and politics underlying resistance and rumour
- Through: **website** accessed by 16,111 users in first 12 months; **rapid response** helpdesk; 40 **briefings** and contextual analyses; contributions to **guidelines, protocols and operational workshops; operational field research**; membership of **key policy and response committees** - UK SAGE (Social Science sub-committee); WHO Science Committee, vaccines and ethics working groups; **media and social media engagement**; 20+ published articles
- Enabled response to be more sensitive, respectful and community-engaged, facilitating the community learning and citizen science that was key to turning the epidemic around
- Informed future preparedness, re-building health systems differently
- Model for ongoing platforms to integrate social science into epidemic/emergency response (UNICEF, USAID, UK Department of Health Rapid Support Team)



**"Wise people" help to fight Ebola in remote villages**

Marianne Bayo  
Icamano, Guèkuèdou  
prefecture, Guinea



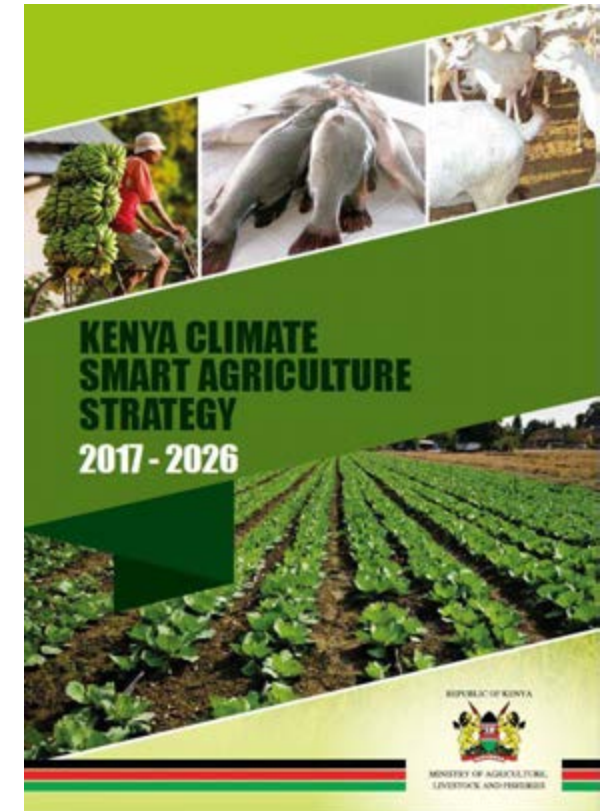
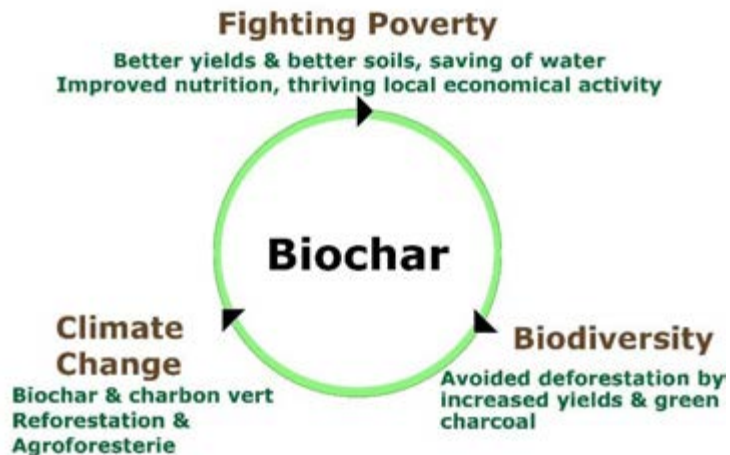
# Interdisciplinary science and community engagement can bring novel solutions, alternative pathways

## *Anthropogenic Dark Earths in Africa?*

IDS, Universities of Sussex, Cornell, Ghana, Monrovia, NGOs in Guinea and Sierra Leone

### Problem focus:

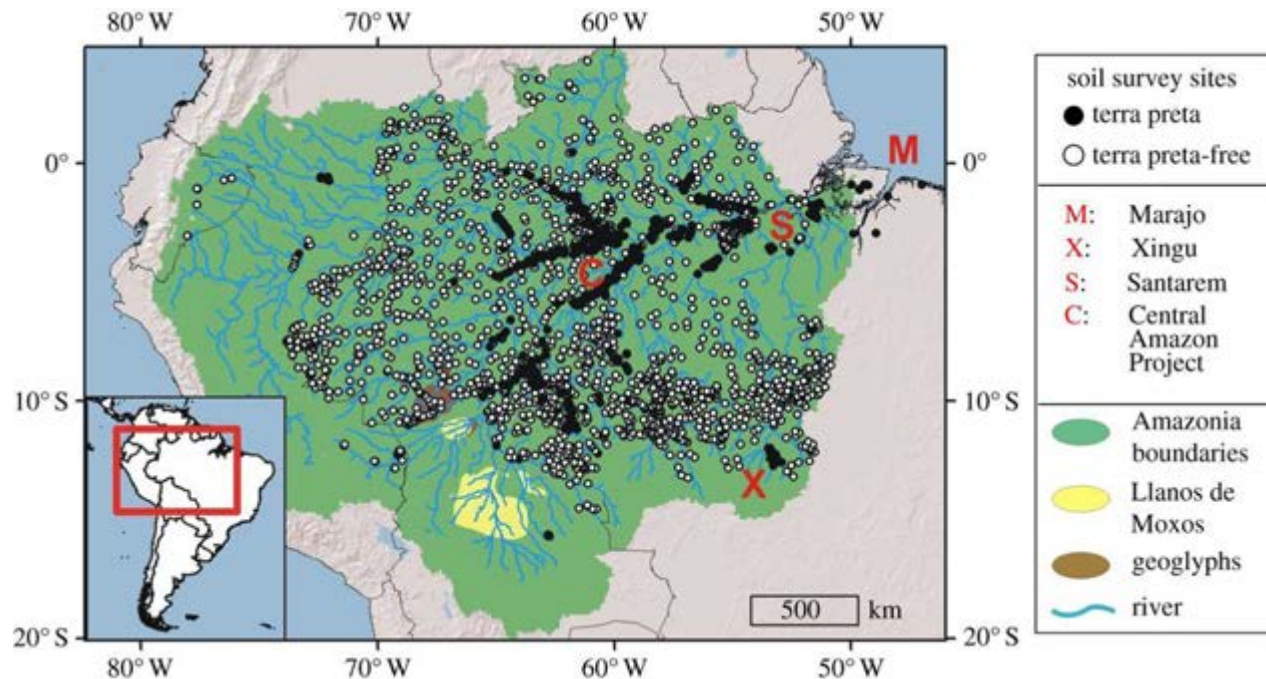
Tackling climate change, soil infertility and poverty  
'Climate smart' agriculture' and 'biochar' as solutions?



## But do indigenous farming practices already enhance soil fertility and carbon?

### The Amazonian *terra preta* story

- Amazonia – dark earths (ADE) or ‘terra preta’ were formed by inhabitation and farming practices of local populations – before European conquest 500 years ago.
- Terra Preta found to have extremely high fertility and carbon sequestration potential, due to the high proportion of charred C, or ‘biochar’, that they contain
- Indigenous practice that supported large, settled farming populations





# Exploring African Dark Earths (AfDE)

*Do Terra Preta analogues exist in the West African forest zone - currently forming through local land use practice?*

## Interdisciplinary research, engaged with communities

Soil science, botany, anthropology, history, archaeology, participatory research with farmers in Guinea, Ghana, Sierra Leone, Liberia

Started with farmers' own knowledge, practices and their views of their effects, revealed through anthropological/participatory research



**Revealed African Dark Earth (AfDE) knowledge, formation and use; soil science reveals high carbon content, analogous to *terra preta***

***Indigenous African soil enrichment as climate-smart sustainable agriculture alternative***



- 'Black soils' formed through everyday waste deposits and cultural practices – cooking, agri-processing
- Associated with old settlements and forming rings around villages and farm camps
- Understood as 'super-fertile' compared with background soils
- Valued by men for agroforestry, cacao, tree nurseries; by women for gardening



**Pathways to impact:**

FOSED – sustainable upland farming in Sierra Leone  
EU BeBi project – locally-appropriate biochar developments  
Ethiopia – indigenous fertilizers

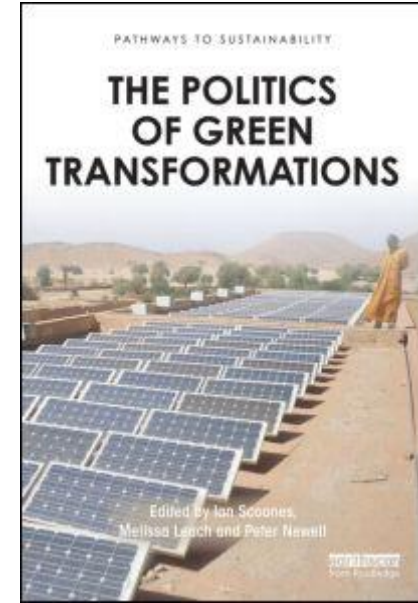
Fairhead, James, Solomon, Dawit, Lehmann, Johannes, Fraser, James A, Leach, Melissa, Amanor, Kojo, Frausin, Victoria, Kristianson, Soren M and Millimouno, Dominique (2016) Indigenous African soil enrichment as a climate-smart sustainable agriculture alternative. **Frontiers in Ecology and the Environment**, 14 (2). pp. 71-76. ISSN 1540-9309



# Transformations to sustainability

- Transformative as well as incremental change
- Innovation for transformation – interactions of technology, markets, states, citizens
- Knowledge within communities, gendered, socially-differentiated
- Bottom-up and top-down, transformative alliances

**Lessons from action and activism, as well as academics and policymakers**



**Slum and shack dwellers' networks**



**Food sovereignty and agroecology**



# Partnerships

- Crucial pillar of engaged excellence, interdependent with all the others
- Many sorts, linking researchers and societal actors; scientists and community members; those in different countries; those from different types of organisation, background and discipline
- Vital to connect global challenges with local realities – up and down
- Partnerships across radical boundaries are hardest to develop and sustain, but ultimately most rewarding
- The importance of:
  - Equity and trust
  - Acknowledging and challenging power relations
  - Interpersonal as well as intellectual relationships



# Thank you

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