

# Health and the SDGs: Opportunities, Challenges and Research Frontiers

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**Health in the 2030 Agenda for Sustainable Development**

Swiss Network of International Studies & Swiss Tropical and Public Health Institute

23 November 2018, Parterre Rialto Basel, Switzerland

# 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***

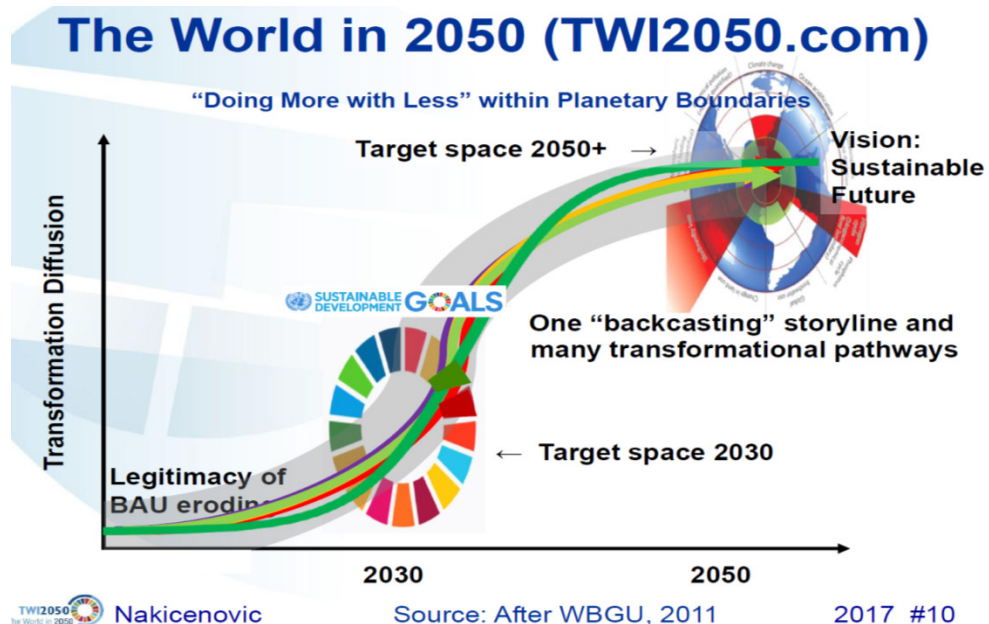


Insecurity,  
extremism,  
migration

# Embraced in global commitments and science-policy debates



SDGs – and their interconnections, synergies and tensions



Modelling the future we want

Finding transformational pathways

# Health in the SDGs – synergies and tensions



Goal 3 – but interlinked with many (all) others. Goals referring to environmental sustainability have major implications for health

# Integrating human and environmental health – related science-policy frameworks and debates



*Our definition of planetary health is the achievement of the highest attainable standard of health, well-being, and equity worldwide through judicious attention to the human systems—political, economic, and social—that shape the future of humanity and the Earth’s natural systems that define the safe environmental limits within which humanity can flourish.*

*'One Health' is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes.*

<http://www.who.int/features/qa/one-health/en/>



# Interactions between global environmental change and health – some examples

## 1. Atmospheric composition changes and their health impacts

- Climate change and health – temperature
- Growing risks of hazards and disasters – floods, extreme weather events

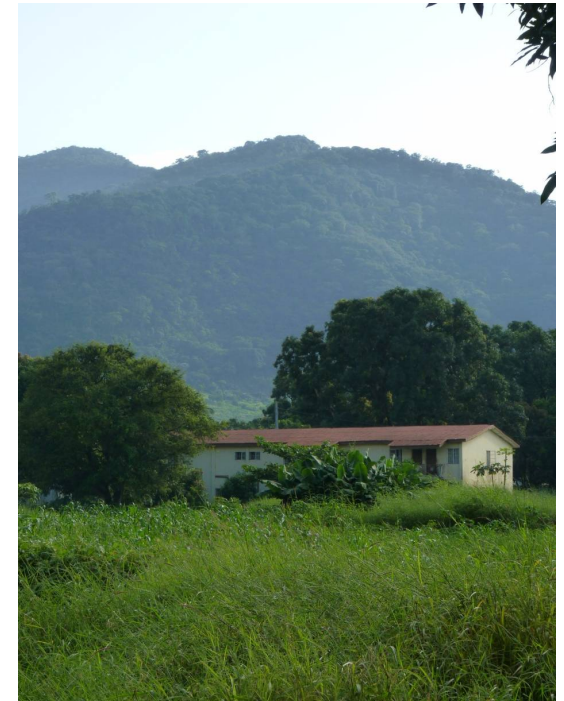


## 2. Land use/land cover changes and human health issues

- Depletion of resources and ecosystem services key for health – eg. water
- Biodiversity loss leading to reduced availability of medicines

## • 3. Food-producing systems and health

- Land degradation, drought, hunger and under-nutrition
- Livestock intensification, diet, obesity and NCDs



## 4. Urbanisation and health

- Air pollution
- Extreme climate events, thermal stress
- Urban sprawl and exposure to vector-borne diseases
- Water quality and disease
- Population mobility - crowding, concentration and diffusion of disease
- Mental health

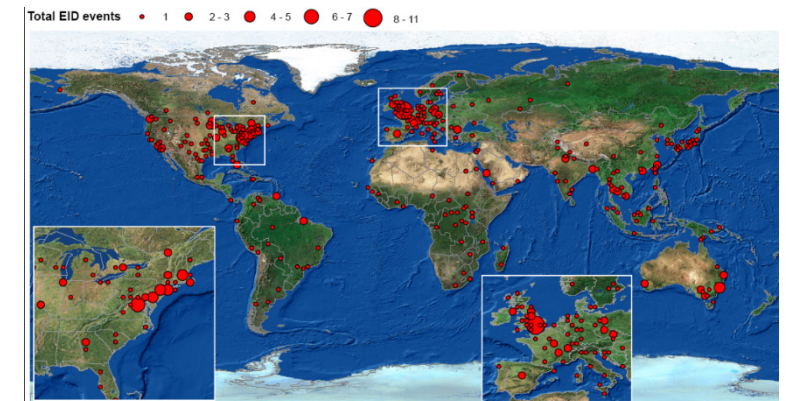


## 5. Environmental change and infectious disease

- Climate, water and land use change and disease vectors
- Human-animal interactions and zoonoses
- Emerging and re-emerging infections; epidemics and pandemics



Emerging Infectious Disease  
events 1940-2004:  
61% are zoonotic  
(Jones et al 2008)



# Research opportunities and challenges

## What sort of science is needed?

- **Problem- and solution-focused**
- **Interdisciplinary** - across 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

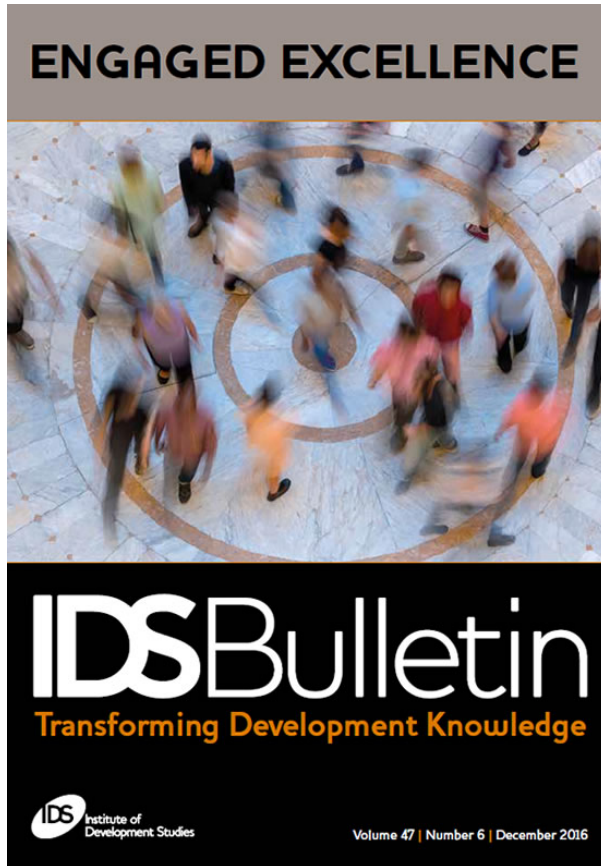


Part of a **GLOBAL NETWORK** of partnerships

# Engaged Excellence

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

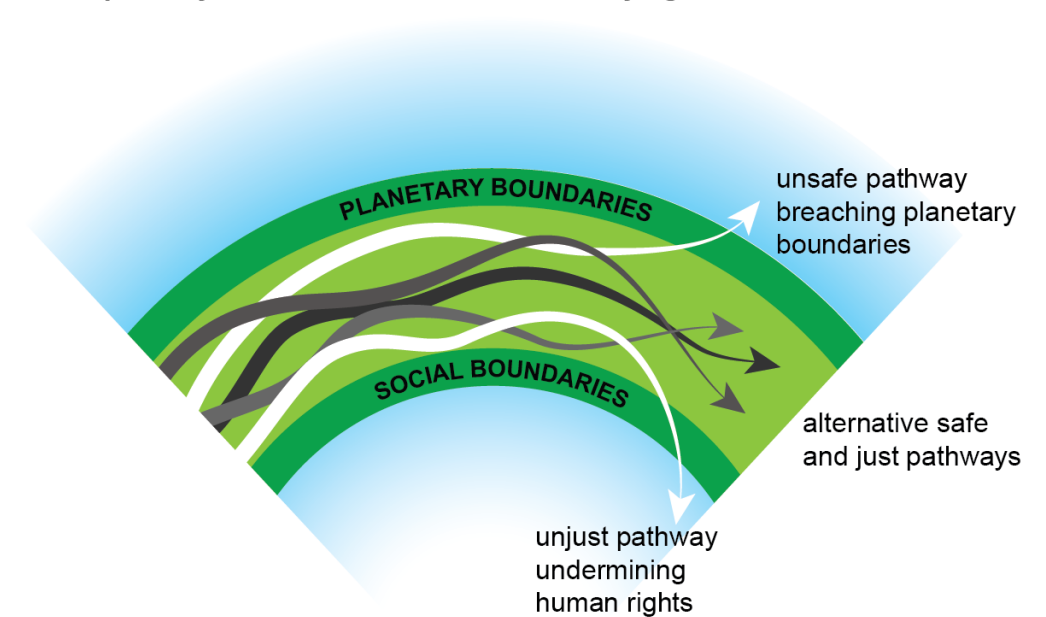
Engaged excellence means that the high quality and impact of our work depend upon us engaging and working with governments and parliaments, international NGOs and local civil society, communities and citizens to achieve positive transformative change, strategically informed by research, evidence and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



# Systems approaches

- Health systems
- Social-technological-ecological-institutional systems; diverse pathways of system change (STEPS)
- Complex adaptive systems approaches
- Health as a dimension of broader systems
- Health outcomes as emergent from system changes

Possibilities within the safe and just space:  
diverse pathways, alternative directions and varying distributional outcomes



*Leach, Raworth and Rockström 2013,  
STEPS Centre*

# Examples of these approaches in action

## 1. Zoonoses and emerging infections

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



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

### **Problem focused science**

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.

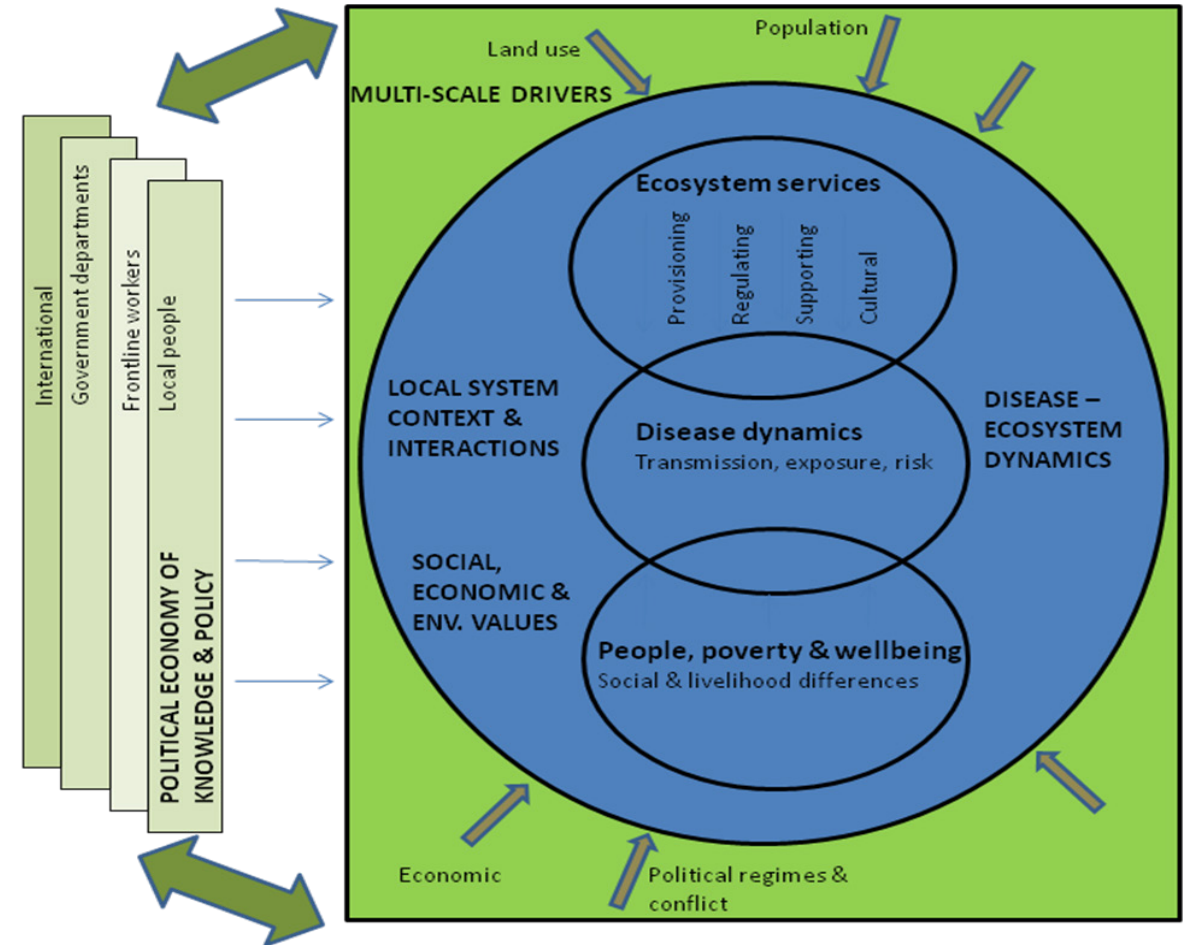


# Interdisciplinarity

**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

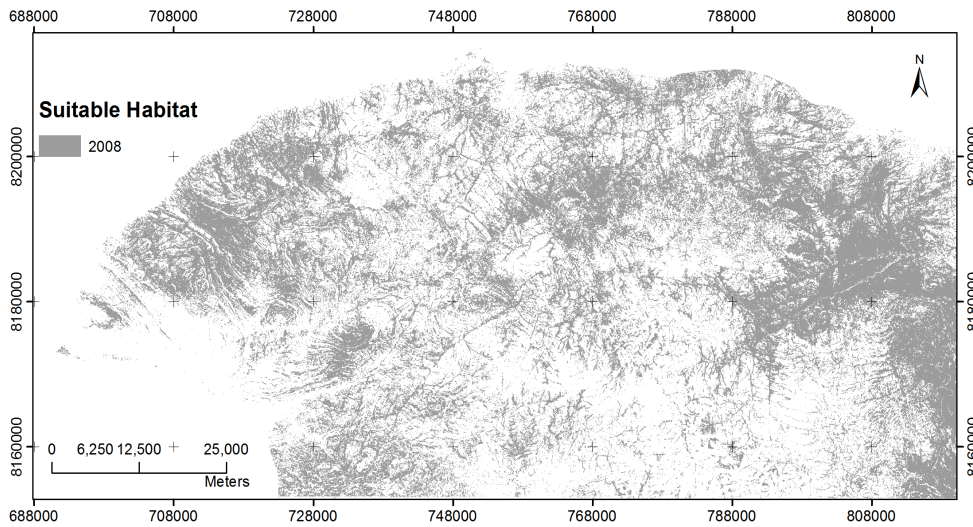
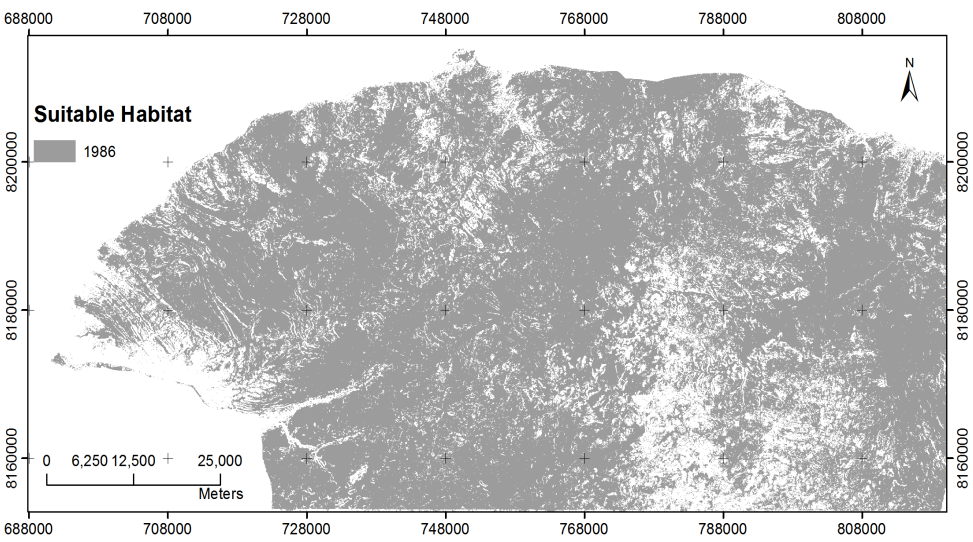


Co-constructing knowledge with communities – participatory research on disease categories, human-animal interactions

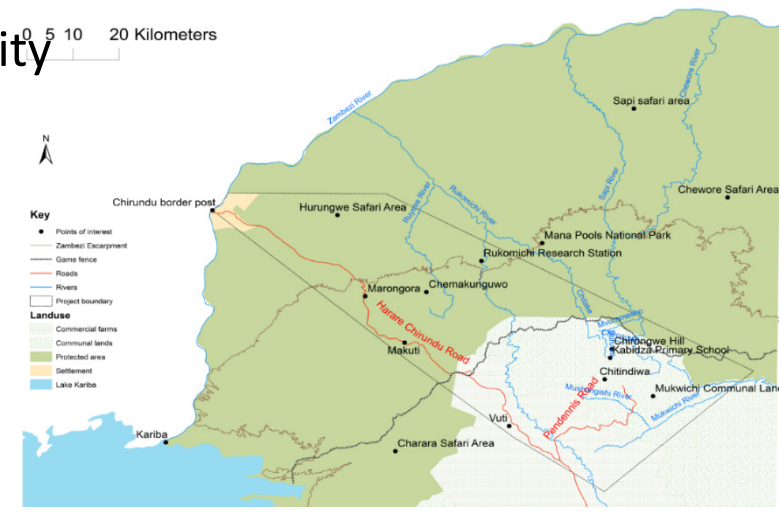


# Novel findings with development implications: Tryps in Zimbabwe

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



Suitable tsetse fly habitat in Hurungwe District, 1986 and 2008

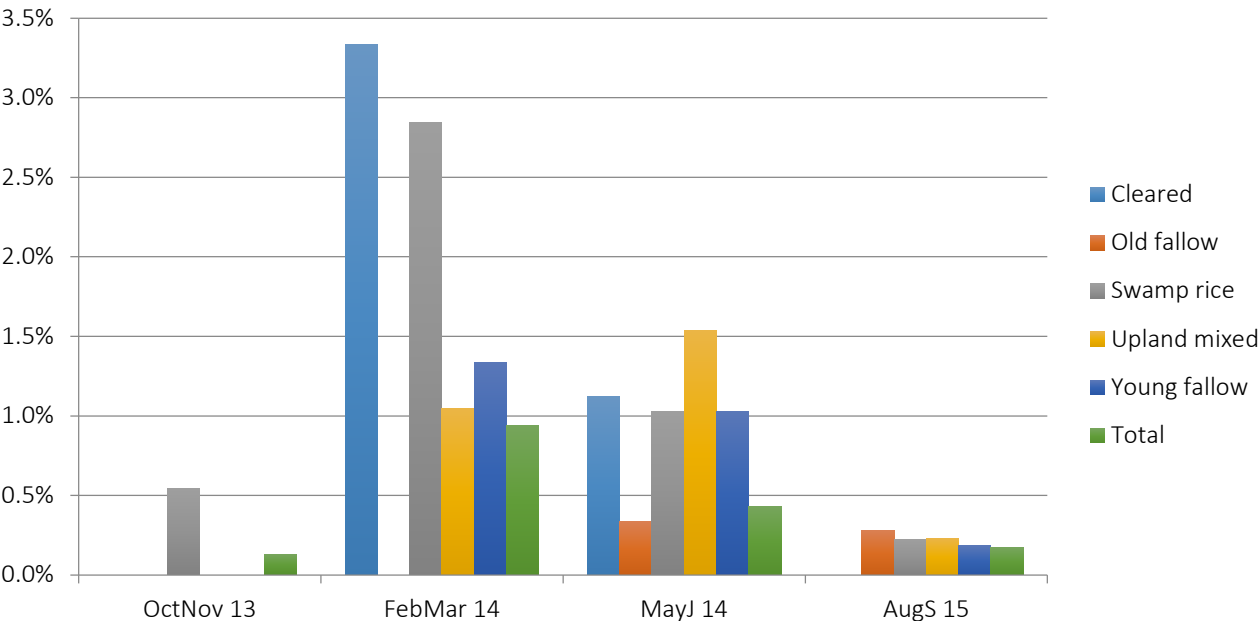


# Novel findings with development implications: Lassa in Sierra Leone

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



Mastomys trap success by land use and time point



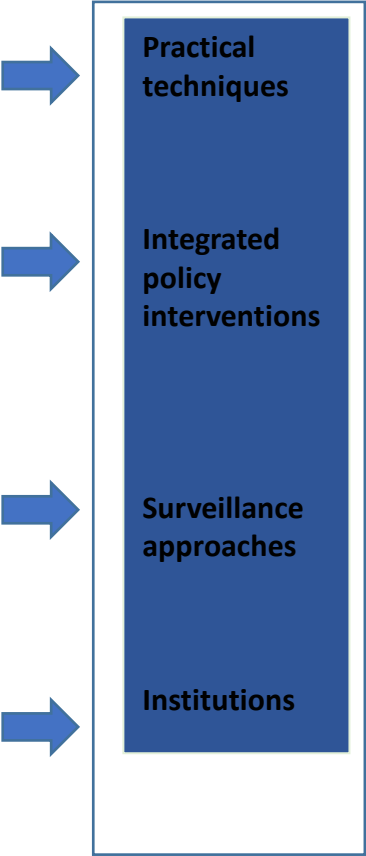
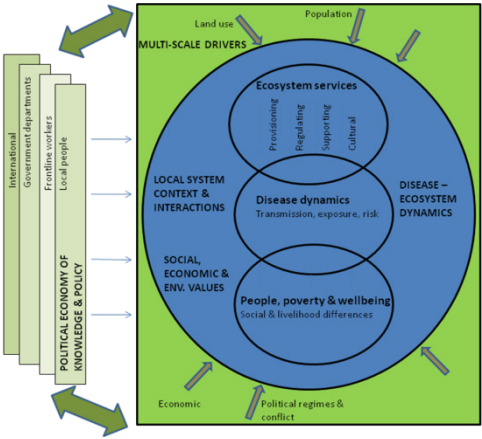
Time point	Activities	
	Upland mixed crop cycle	Swamp rice cycle
November 2013	Harvest	Harvest
March 2014	Soil prep—clearing and burning land	Vegetable gardening
May 2014	Soil prep, planting	Minimal activity
August 2015	Weeding	Weeding

# Mobilising evidence for impact

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



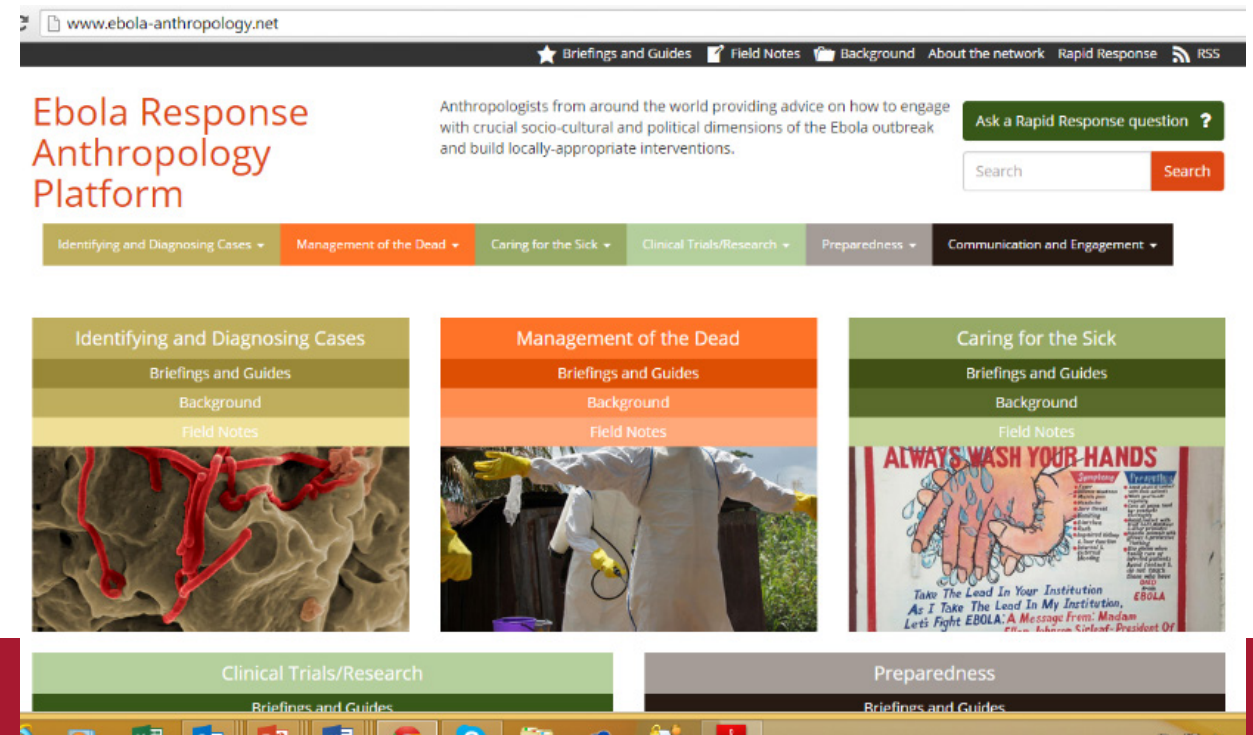
Participatory  
Impact Pathways  
Analysis (PIPA)



# ... 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

## ... the importance of community engagement

**Burials:** *Revealed burials as part of longer period of caring for the extremely sick by kin; social and cultural significance, ensuring people become ancestors and matters of inheritance settled; roles of gender-based initiation societies; evidence that communities already adapting. – eg. replacing physical with non-physical rituals. Directly shaped multi-agency work of burial teams and social mobilisation in Sierra Leone.*

**Addressing reluctance:** *Revealed reasons and context for anxieties, violence and flare-ups in justified fears linked to mining and land grabs, and a politicised response by government that interplayed with longstanding ethnic and political tensions between Malinke and forest zone people such as the Kissi. Altered the way UNMEER and other agencies tailored messages and teams – eg. ethnically trusted or neutral officials.*

**Community complexities matter** - heterogeneous (gender, ethnicity, wealth, political hierarchies) and dynamic; need to understand and work with diverse socio-cultural institutions and power relations

**Context matters** – histories, political economies; conflict; state-society relations; foreign interventions; embedded cultural framings; trust in public authority

**Citizen science** - emerged as villagers and epidemiologists interacted



# Examples of these approaches in action

## 2. AMR in dynamic livestock systems and plural health markets

### *The Myanmar Pig project*

- Human and veterinary health systems - One Health lens
- Weak state provision – plural health markets with predominance of informal providers of services and drugs and extensive self purchasing and treatment
- Intensification of pig production - a positive view from farmers of increased access to drugs and commercial feed
- Studying care trajectories and trade offs made by farmers in context of precarious livelihoods
- Interdisciplinary analysis with sampling and lab work



## Themes that illustrate these approaches in action

### 3. Health System responses to chronic lifelong conditions

- Research in South Africa funded by MRC Joint HSRI scheme and by a Gates grant to the University of Cape Town
- Collaboration with epidemiologists from UCT, a public health pharmacist from UWC and managers and policy makers within the Department of Health



# Taking the treatment of chronic lifelong conditions to scale: retention-in-care for HIV and cross-learning for NCD care in South Africa

- Learning from the investment and innovation for HIV to extend similar levels of support for NCDs
- An evaluation of models to improve retention-in-care through differentiated care, disease clubs and CHW involvement – community engagement
- Examining individual and facility level barriers to retention-in-care, related to gender, age, race, social position
- Assessing exclusions and inequalities in care in the context of changing urban environments



# **Researching health and the SDGs – some implications**

**Health dynamics entangled with many other  
Environmental, social and economic changes – and their relevant SDGs**

- Climate and environmental change
  - Socio-economic change
  - Economy and livelihoods
  - Livestock industry and practices
  - Land use and human-wildlife interactions
  - Agriculture
  - Food production and consumption
  - Urbanisation
  - Gender relations
  - Public services and systems
  - Governance
- ..... And more

# Researching health and the SDGs – some implications

## Interdisciplinary/social sciences offer some vital perspectives and questions

- A focus on social, economic and political (as well as technical, health, veterinary) matters
- An interest in global-local relations – bottom-up as well as top-down
- A concern with distribution – Who gains and who loses? Who gets sick and why?
- Power and political economy
- Whose knowledge counts?
- An emphasis on people in places – grounding the SDGs locally; One Health and Planetary Health in real national and local contexts

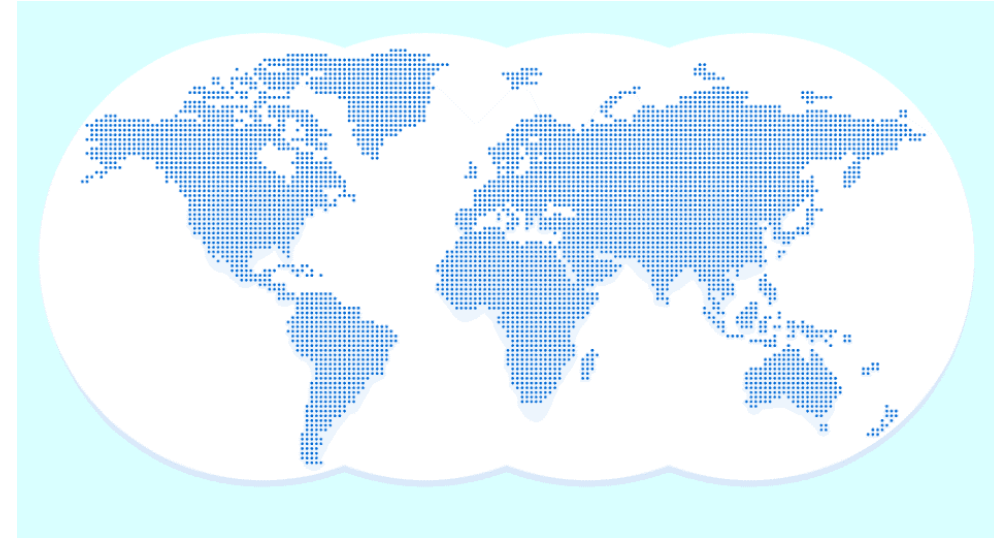
# Researching health and the SDGs – some implications

## Summary of the IDS engaged excellence approach

- Interdisciplinarity
- Co-construction of knowledge
- Intersectoral collaboration
- Mobilising a wide range of evidence for action
- A systems approach – health as a dimension of broader systems
- Partnership

# 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
- 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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