



Human forces lie behind spread of infectious diseases

New publication promotes One Health approach as only practical way forward.

Infectious diseases traceable to animals are driven by climate change, land-use change and the massive expansion of towns and cities, according to contributors to a new Royal Society publication, *One Health for a Changing World: zoonoses, ecosystems and human well-being*.

Some 60% of human diseases have their origin in wild or domesticated animals. They include those that spread fear and alarm worldwide, such as Ebola, swine flu and Zika, as well as less-heard-of neglected diseases such as sleeping sickness (trypanosomiasis) and Rift Valley fever, which devastate the lives of millions of people in poorer parts of the world.

The intersections of human, animal and ecosystem health lie at the heart of *One Health for a Changing World*, a Special Issue of the *Philosophical Transactions of the Royal Society B* on the One Health approach to tackle animal-to-human (zoonotic) disease transmission. One Health rests on the principle that the health of humans, animals and ecosystems are interdependent.

Among other work, *One Health for a Changing World* showcases the results of a four-year research project, the [Dynamic Drivers of Disease in Africa](#)¹, which show that humans lie behind the rise and spread of many zoonotic diseases:

- In Kenya, irrigation development plays a significant role in creating swampy conditions perfect for the emergence of insect-transmitted diseases.
- In West Africa, civil wars and poverty force people to live in urban slums where the deadly Ebola and Lassa fever viruses can emerge and spread quickly.
- In Zimbabwe, migrants are pushed into areas infested with tsetse, the fly that carries the parasite causing sleeping sickness.

One Health for a Changing World is edited by Professor Andrew Cunningham, of ZSL (Zoological Society of London), Professor Ian Scoones of the STEPS Centre (Institute of Development Studies/University of Sussex) and Professor James Wood of the University of Cambridge. Professor Ian Scoones said:

“Understanding the interactions between ecosystem change, disease regulation and human wellbeing is an interdisciplinary challenge that the scientific community is only beginning to

address. Political and economic forces are central drivers of disease in Africa. But local community-based efforts can provide solutions. This new publication brings together leading experts to present interdisciplinary research that can inform policy and practice for a One Health approach to managing infectious disease for a changing world.”

The Special Issue of 12 papers also includes, among others, papers considering:

- How zoonotic diseases conspire to keep poor people poor in sub-Saharan Africa.
- The growing threat to wildlife conservation from infectious diseases.
- The failure of facility-based surveillance in West Africa.

‘One Health for a Changing World’, a Special Issue of the *Philosophical Transactions of the Royal Society B*, is out now, available Open Access at bit.ly/PTB1725

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Note for editors

1. The Dynamic Drivers of Disease in Africa Consortium (www.driversofdisease.org) undertook multidisciplinary research on the relationships between ecosystems, zoonoses, health and wellbeing, with case study countries including Ghana, Kenya, Sierra Leone, Zambia and Zimbabwe. It was funded with support from the Ecosystem Services for Poverty Alleviation (ESPA) programme. ESPA is a global development research programme funded by the UK Government, supported by the Natural Environment Research Council, Department for International Development and the Economic and Social Research Council. ESPA aims to provide new world-class research evidence demonstrating how ecosystem services can reduce poverty and enhance wellbeing for the world’s poor. See www.espa.ac.uk for more details.

