response, viral analysis, timely provision of drugs, vaccines and so on. For some, the avian influenza experience offers a shining example of the potential of global health governance, and the effectiveness of the International Health Regulations. But difficulties have been highlighted by a virus-sharing controversy (see Case 1). A focus on access and rights – particularly for those not normally at the table – means simple formulations of 'global governance' are more difficult to realise than first envisaged.

Case 1: Sharing viruses

The Indonesian government has argued that viruses from Indonesia should belong to Indonesia, and that any benefits derived from using them – for manufacturing vaccines in particular – should result in benefit-sharing to the country of origin. With the refusal by the Indonesian government to supply human influenza virus samples or data to the international system in early 2007, the assumptions of the international governance system were put to the test. High level meetings, diplomatic negotiations, off-stage posturing and much media speculation characterised months of tense relations.



One World, One Health? Learning from the International Response to Avian Influenza

Avian flu - From STEPS Working Paper 10, The international response to highly pathogenic avian influenza: science, policy and politics, STEPS briefing 10

More reading

The international response to highly pathogenic avian influenza: science, policy and politics, STEPS Working Paper 10 by Ian Scoones and Paul Forster (2008) ISBN 978 1 85864 544

Read more about our work on Avian 'flu: the politics and policy processes of a global response at: www.steps-centre.org/ ourresearch/avianflu

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Credits

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About the STEPS Centre

The STEPS Centre (Social, Technological and Environmental Pathways to Sustainability) is an interdisciplinary global research and policy engagement hub uniting development studies with science and technology studies. We aim to develop a new approach to understanding, action and communication on sustainability and development in an era of unprecedented dynamic change. The STEPS Centre is based at the Institute of **Development Studies and SPRU Science and** Technology Policy Research at the University of Sussex with a network of partners in Asia, Africa and Latin America and is funded by the Economic and Social Research Council. Find out more: www.steps-centre.org

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In 1997, 18 people were infected with the highly pathogenic avian influenza virus, H5N1. Six died, and since then a further 245 deaths have been reported. The virus has spread across most of Asia and Europe, with regular outbreaks in poultry. In some countries – Indonesia, China, Vietnam, Bangladesh, Nigeria and Egypt – the disease has become endemic. A global human pandemic has not occurred, but most believe it will at some time. The international response has affected the livelihoods and businesses of millions. Markets have been restructured, surveillance and poultry vaccination campaigns implemented, and over two billion birds have died or been culled. Simultaneously substantial investment has been made in human and animal health systems and developing drugs and vaccines. In many countries pandemic contingency and preparedness plans have been devised.



Ludger Vorfeld / Vietnam street market / iStockphoto

What lessons can we learn from this experience? How can future efforts to respond to emerging infectious diseases – particularly zoonoses – be improved?

Policy narratives

Three overlapping policy narratives – storylines about policy problems and solutions – have guided the response to avian influenza (see Box). Each is promoted by different policy actors and interest groups.

Policy narratives

Veterinary, agriculture and livelihood concerns: "it's a bird disease and affects people's livelihoods". Responses focus on veterinary control measures and industry restructuring involving mainly FAO (the UN Food and Agriculture Organisation) and OIE (the World Animal Health Organisation).

Human public health: "human to human spread is the big risk, and could be catastrophic". Responses dominate media and political concerns and focus on drugs, vaccines and behaviour change. WHO (the UN World Health Organisation), UNICEF (the UN Children's Fund) and some NGOs are central.

Pandemic preparedness: "a major economic and humanitarian disaster is around the corner, and we must be prepared". Responses focus on civil contingency planning, business continuity and containment. A wider network of business and industrial interests are concerned along with government/local authorities and the humanitarian community – UN agencies, the Red Cross, development NGOs and others.

Each narrative offers different understandings of the problem, and so different solutions. Each competes for policy attention and funds. All however are defined by an over-arching 'outbreak narrative' which emphasises distinct outbreaks, followed by focused control, and ultimately the elimination of the disease. United by this narrative, and involving substantial investment of public funds (over US\$2 billion has been pledged to the effort), the international response has resulted in some significant achievements:

- Surveillance and control of the disease in some areas
- Improved capacity of animal and human health systems
- Development of pandemic preparedness plans
- Improved coordination across agencies.

Challenges and missing dimensions

Yet there have also been challenges: avian influenza is now endemic in some areas; coordination at country level has been found wanting; rivalries between professions and organisations persist; and funding and capacities for an effective and equitable global responses to a pandemic remain weak.

Fundamentally a number of dimensions are absent from the standard outbreak narratives. These include:

Dynamic drivers

Understanding the underlying drivers of disease - and the socio-ecological dynamics of emergence - must be part of any international response. Zoonotic disease hot spots exist where reservoirs of disease from animals are found close to densely populated areas. Often these are settings where animal and human health services are weak. regulation lax. and human-animal contact common. Yet in many such places people are used to living with infectious disease. They have deeply embedded understandings that influence the way they respond. These may be at odds with standard medical and veterinary perspectives, resulting in conflict between official programmes and local responses. A perspective focused on the dynamics of disease and local responses sets the agenda wider than the standard outbreaktreatment-eradication mode. Ecosystems and their interactions must be examined, and social-cultural-livelihood interactions made central.

Poverty and equity

What is the distributional impact of disease burdens and control responses? If the problem is framed as an emergency – focused on human pandemic threat – culling chickens is seen as a necessary evil which, if compensated for, offers a substantial public good benefit. But from the perspective of those whose livelihoods depend on poultry, such interventions can be catastrophic. In the same way, industry restructuring towards bio-secure, large-scale units favours corporate interests. This has consequences for people's livelihoods. Currently the political economy of the food and farming industry is obscured by the technical disease focus of the outbreak narratives. With a normative focus on poverty and equity, we must ask: whose world, whose health - and which public, which good? The question is not only about controlling a disease: it must also ask for whom, and with what distributional consequences?

Global governance

The international response assumes that there is a global consensus that can be implemented through an international system based on the principles of cooperation and respect. This allows early detection, rapid

One World, One Health: 10 challenges for the future

The table contrasts the focus of the international response over the last five years, with the challenges for the future.

Theme	Focus for the avian influenza response	Challenges for the One World, One Health agenda
Outbreaks and endemism	Disease events and diseased areas	Emphasise dynamic drivers and endemic contexts
Risk and uncertainty	Risk and risk management	Implications of uncertainty, ignorance and ambiguity
Surveillance and information	Disease incidence and outbreak tracking	Focus on underlying dynamics of change to identify emerging hot spots
Ethics, equity and access	Ethical, distributional and access issues peripheral	Equity and access - who gets access? Whose world, whose health?
Health security	A protectionist, national security stance	An inclusive, rights-based human security vision
Global governance and accountability	A universalist, consensual globalism, upward accountability to donors	A politically realistic perspective on governance, recognising different interests and agendas. More inclusive downward accountability
Organisational architectures	Lead technical agencies with defined mandates, backed by efficient funding mechanisms and light-touch coordination	Building on the model, aiming for 'optimal redundancy', avoiding forced integration, but maintaining a nimble, flexible coordination 'movement'
Disciplines and professions	Veterinary and health professionals dominate	Need for more ecologists, epidemiologists, economists and social scientists, including anthropologists, sociologists and political scientists. And 'non-professionalised' local experts
Programme design and implementation	Standard designs and blueprints based on outbreak narratives, with local ad hoc adaptation in the field	Accepting flexible design and adaptation from the start, based on subsidiarity and participation
Success and impact	Success and impact indicators based on outbreak narratives	Widening the scope requires widening the visions of success, focusing on long-term disease intelligence and response