

Troubling uncertainty

If the pre-eminent roles of governments are to maintain social order, provide basic security, and the protection of property, then it is clear that old and new animal diseases that can cross over to humans and have the potential to rapidly spread in human populations need to be factored in equations that shape domestic and international policies, especially those concerned with safeguarding the global commons of public health.

The implications of animal diseases in international economic affairs now span far beyond their potential impacts on commerce. For instance, when animal diseases deemed highly contagious occur in one part of the world, other countries normally react with trade bans that tend to impact national budgets, social structures and, at times, even geopolitical positions.

The recent advent of 'novel' infectious diseases, many of which are, at least partially, of animal origin pushes global public health emphasis away from exclusive control and prevention of 'classical' animal and human infectious diseases known to mankind. Attention now focuses on the very basic drivers of change in global landscapes, and how these changes affect ecosystems, including the health of species living within these. Additionally, more attention is paid to how public health threats, and their accompanying fears, impact economic progress, human development, and national security.

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In our increasingly interconnected world, understanding the close relationships between micro-organisms harboured by animals and human health are becoming more relevant, and these, coupled with the global interdependence of health issues, are critically important in designing comprehensive national, foreign and security policies. Moreover, these novel biological threats are rapidly flourishing against a background of security and economic challenges – climate change, the proliferation of weapons of mass destruction, international terrorism, energy security, unemployment, and deepening recession.

■ Of the same, there is more to come

Given that the last twelve years have seen a resurgence of emerging infectious diseases such as Nipah Virus in 1998 in Malaysia, Severe Acute Respiratory Syndrome in early 2003 in China, and Highly Pathogenic Avian Influenza from 2004 to 2010 mainly in Southeast Asia but also in Europe and Africa, there is

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worldwide fear that more animal-borne diseases will strike in the future.

This resurgence is not limited to novel diseases. Classical diseases such as Rabies, Foot-and-Mouth Disease, and Rift Valley Fever have also been on the rise in Eastern Europe, the horn of Africa, and the Pacific Rim. Developed and developing countries are nowadays more receptive to the notion of how debilitating diseases originating in domestic animals and wildlife can easily infect humans – as recently seen with pandemic H1N1/2009 influenza virus – and also to how they can rapidly spread around the globe.

Many factors contribute to the (re-)emergence and intensification of animal diseases. These include economic, social, cultural, environmental, evolutionary, and demographic factors; all of which seem to be in a constant state of flux in rapidly evolving multidimensional contexts.



Photo: FAO

Leading scientists and researchers around the world have been trying to understand the global temporal and spatial patterns of animal diseases through an array of instruments ranging from the use of satellite images to pin down geographical origins, to cutting-edge molecular technologies to track the genetic makeup of these insidious pathogens. If there is a commonly shared outlook among experts it is that animal diseases infecting humans will continue to rise. Hence, the general public, as well as scientists and policymakers find it all the more relevant to ask: What is out there waiting to come out? When? How bad will it be? Is there anything we can do today to be more effective tomorrow?

■ We just don't really know for sure

Despite our desire to find some clarity and reduce uncertainty, there is currently very little solace to offer. Much of the disease intelligence so far developed has proved to be of minimal benefit in foreknowledge and early detection of emerging infectious diseases. It therefore comes to no surprise that the United States and the European Union are now investing heavily in initiatives to improve foresight capacity.

Faced with imperfect information in many areas, much of the more recent efforts are focused primarily on prediction, identification, and prevention of emerging animal diseases followed by contingency preparations and emergency responses. A complementary

As the world interlinks closer we need to build up a global animal-disease surveillance and control system to uphold global public health.

approach that has been heralded as priority is the creation and support of expertise networks to more narrowly address specific issues that arise from pre-emptive research. This, it is said, should be a global collaboration of individual and institutional brainpower that chiefly seeks to minimise potential damage while in parallel seeking for quick, affordable solutions to problems as they arise. In light of the open source format proposed, some nation-states have expressed their misgivings in sharing biologic and genetic information fearing that this so-called 'selfless camaraderie' may come back to haunt them in the form of naming and shaming, or simply by suffering selective marginalisation.

■ Reflections

As global public health leadership, agenda-setting, and funding shifts more towards multilateral organisations, where clout remains primarily in the hands of influential nation-states, it is important to repeatedly stress to influential policymakers and opinion leaders that infectious animal diseases threaten the health status of individuals and populations, and consequently hamper development, security and order. Either



Photo: FAO

way, decision makers together with the leading international technical agencies, and an array of national animal and human health institutions, should get serious about advocating surveillance, identification, and control of animal diseases to uphold global public health. This is without doubt a timely moment to reflect on the critical relationships between livestock production, animal diseases, food security, poverty reduction, and global public health.

This article is a comment to an article by Ian Scoones and Paul Forster: One World, One Health?, that has been published in Rural 21, Issue 6/2009, pages 22–24.

Zusammenfassung

Neue infektiöse Tierkrankheiten, die die öffentliche Gesundheit beeinträchtigen und möglicherweise die Artengrenze überschreiten können, werden sich in der Welt immer weiter ausbreiten. Diese Krankheiten können sich so weiterentwickeln, dass sie letztlich von Mensch zu Mensch übertragbar sind; dies weckt Ängste in der Bevölkerung und Panikreaktionen, die zu einer Gefahr für den wirtschaftlichen Fortschritt, die soziale Ordnung und die

ationale Sicherheit werden können. Gefordert ist daher ein proaktiver Ansatz für das Risikomanagement bei Epidemien, der Vorhersage, Prävention, Bekämpfung der Wirkungen, Früherkennung und schnelle und wirksame Reaktionen verbindet.

Resumen

Es un hecho que seguirán surgiendo en todo el mundo nuevas enfermedades infecciosas de origen animal, las cuales afectan la salud pública y tienen la capaci-

dad de cruzar fronteras. Estas enfermedades tienen el potencial de desarrollar una transmisibilidad entre seres humanos, por lo cual inspiran temor en la opinión pública y suscitan reacciones alarmistas que causan un impacto sobre el progreso económico, el orden social y la seguridad nacional. Será conveniente desarrollar un enfoque proactivo de gestión del riesgo de enfermedades que combine la previsión, la prevención, la mitigación del impacto, la detección temprana y las respuestas rápidas y eficaces.