FAO IN ONE HEALTH

ECTAD
Emergency Centre for Transboundary Animal Diseases

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THE ISSUE

A seminal document entitled *'Contributing to One World, One Health: A strategic framework for reducing risks at the Animal-Human-Ecosystems Interface'* (2008) was formulated by the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the World Organisation for Animal Health (OIE), the United Nations Children's Fund (UNICEF), the United Nations System Influenza Coordination (UNSIC) and the World Bank. The document provides a basis for operationalizing the *One Health* approach to generically address emerging and re-emerging infectious animal and zoonotic diseases at the animal-human-ecosystem interface, which impact negatively on people's well-being, safety and livelihoods.

Animal-Human interface: An Indonesian with a fighting-cock

Rapid growth and technological innovation have led to profound structural changes in the livestock sector, including: a progressive move from smallholder farming systems towards large-scale specialised industrial production systems; a shift in the geographic locus of demand and supply in the developing world; and an increasing emphasis on global sourcing and marketing. These changes have implications for the ability of the livestock sector to expand production in sustainable ways that promote food security, poverty reduction and public health. The speed of change has often significantly outpaced the capacity of governments and societies to provide the necessary policy and regulatory framework, to ensure an appropriate balance between the provision of private and public goods. The result has been systemic failures apparent in social exclusion, widespread environmental damage and threats to human health.

THE FACTS

There has been considerable success globally in eliminating or containing diseases in humans and/or livestock: the world became free from smallpox in the late-1970s; river blindness has been eradicated in West Africa during the 1980s; polio persists in only a few countries worldwide; and progress has been made with other vaccine-preventable childhood diseases, measles in particular.

Likewise, multiple infectious livestock diseases have been subjected to progressive control: the FAO-orchestrated Global Rinderpest Eradication Programme is expected to conclude in 2011; foot-and-mouth disease (FMD) was successfully eliminated in Western Europe in the 1970s and 1980s; FMD and brucellosis are increasingly addressed through regional roadmaps, progressing to elimination; and significant areas of the world have been freed from major transboundary and/or zoonotic livestock diseases. Since the beginning of the H5N1 Highly Pathogenic Avian Influenza (HPAI) crisis, FAO has played a leadership role in the global response. While H5N1 HPAI remains entrenched in relatively few countries, the prevention and control measures promoted and implemented led to the elimination of the disease in a majority of countries; and the number of human cases is limited.

However, flare-ups of new diseases caused by pathogens jumping to a higher level of virulence or from animals to humans as hosts should be addressed at the level of the drivers. There is an urgent need to move beyond the paradigm of early detection and response, in order to address the drivers of disease emergence and persistence, and define preventive measures at a more fundamental level. Animal health systems have been neglected in many parts of the world, leading to institutional weaknesses and information gaps, as well as inadequate investments in animal health-related public goods. Given that over a billion people are directly dependent on livestock as a source of food and livelihood, animal health services are important as public goods, in that they protect human and livestock health, conserve natural resources, and thus benefit society as a whole.

CHALLENGES AND GAPS

The exponential increase in people and animals will have serious implications for the availability, use and management of land and water, forests, and wildlife resources. The change in climate and ecosystems, and the greater human contact with wild animals will result in increased exposure to new disease-carrying vectors and pathogens. The higher density of domestic animals and humans is likely to create a conducive environment for existing and emerging disease agents, and the projected increase in movement of people and animals will increase opportunities for the exchange of pathogens worldwide.

The agro-ecological drivers of disease emergence need to be identified, understood, and confronted: the interplay of driving forces and pathogen exchange between the main host domains is a complex combination of human living environments (population density and growth, poverty, age/susceptibility structure, dietary habits); livestock and food chains (increase in stock numbers, globalizfation of production/supply, peri-urban livestock production, scaling-up, mixing of old/new systems); and ecosystems (irrigation and land use, climate change, global water flows).

FAO'S POSITION

The *One Health* approach aims to enhance global efforts to mitigate and counter the emergence of zoonoses and other diseases. The approach calls for strong multisectoral and multidisciplinary collaboration, which moves beyond the strengthening of veterinary-public health systems to more clearly encompass disease prevention, with greater emphasis on safer food production, distribution and marketing practices, and adoption of sustainable animal agriculture and natural resource management. FAO, with its wide-ranging array of multidisciplinary expertise, is uniquely positioned to facilitate and champion the *One Health* approach which addresses disease risk and emergence at source, by tackling the disease drivers and by acknowledging that poor people are disproportionately affected both by emerging diseases, as well as chronic disease burdens.

Action is required at the local, regional and national, and international levels. Developing an agenda for action supported by governments, international institutions, multilateral and bilateral donors and civil-society stakeholders is a crucial step towards a livestock sector characterized by better governance, a more inclusive development process, levels of investment commensurate with the importance of the sector and the challenges it faces, and improved international cooperation. While disease intelligence and emergency campaigns orchestrated by centrally coordinated public institutions remain key, such efforts must be complemented by public awareness and social mobilization efforts, with the aim of integrating the various technical, environmental, livelihood and rural development concerns.

RECOMMENDATIONS

- Consider emerging infectious diseases in conjunction with the dynamics in world animal agriculture and rural development; and emerging zoonoses in relation to the broader veterinary public health agenda, including food safety.
- Enhance collation, analysis and synthesis of information to enable provision of decision support in risk assessment and management of emerging zoonotic diseases globally.
- Develop principles, tools and methods for disease impact assessment, comprising veterinary public health aspects, socio-economic dimensions, including food and income security, and general livelihood aspects, together with consideration of the management of natural resources, agro-biodiversity, and sustainable agriculture.
- Increase understanding of hazard analysis and critical control points, both in the food chain and extending to the farming landscape, to identify drivers for disease emergence.
- Strengthen multisectoral and multidisciplinary collaboration, and effective partnerships and joint ventures; and synergy with WHO and OIE.

References and Resources:

- *Contributing to "One World, One Health": ftp://ftp.fao.org/docrep/fao/011/aj137e/aj137e00.pdf*

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