

“We must have assurance that the viruses we send will be used solely for non-commercial public health purposes in an equitable manner, not only for the benefit of company profits or rich people in rich nations. We must have trust that when we entrust our viruses to the multilateral system, it would not be at the expense of our sovereign rights and at the expense of our people’s health. For that to happen, we need to formulate a new system.”

Siti Fadilah Supari, Minister of Health, Republic of Indonesia

20 November 2007

Germ warfare

Livestock disease, public health and the military-industrial complex

GRAIN

The continuing global integration of the meat trade, and more generally that of national economies, have made animal disease an international concern. An outbreak of a disease can mean the loss of export markets worth billions of dollars and typically sparks international rows over trade restrictions, regulations, secrecy and even bioterrorism. The geopolitics can get particularly nasty and intense when zoonoses – animal diseases that can be transmitted to humans – are involved. There are international agencies, such as the World Organisation for Animal Health (OIE) and the United Nations’ World Health Organisation (WHO) and Food and Agricultural Organisation (FAO), that are supposed to navigate such problems with objective expertise. So far, however, these agencies appear to be as heavily influenced by politics as their member governments – with a corporate agenda regularly coming out on top.

One of the more high-profile international conflicts over livestock disease involves the sharing of samples of the H5N1 strain of the bird flu virus. Under the

WHO’s Global Influenza Surveillance Network (GISN), national laboratories are supposed to forward virus samples that they collect from human victims of bird flu in their countries to the WHO’s collaborating centres, which are institutions such as research institutes in universities. The reasoning is that the big laboratories in these institutions have the necessary capacity to analyse and compare viruses, and that this should make it easier and faster to appraise the evolution of the disease and its potential impacts. The virus samples also provide the critical raw material for the development of vaccines and diagnostic kits, since only the most up-to-date versions can be effective against such a rapidly mutating pathogen. And this is where things get sticky.

The way the GISN currently functions means that when a country sends samples of viruses to the collaborating centres it relinquishes control over those samples to these labs. The labs are then free to transfer the samples, or the important information derived from them, to pharmaceutical corporations, which can then apply for patents. The labs are also free to publish articles on the virus



sequence in scientific journals, or even take out their own patents on the material or its derivatives – which is precisely what some of these labs have been doing.

The potential for conflict over who benefits from such a system emerged on 9 February 2007 when Indonesia cut off the supply of local bird flu virus samples to the WHO. Apparently, a company had approached the Indonesian government to sell diagnostic kits that it had developed from virus samples originally taken from Vietnamese bird flu patients and sent to a WHO collaborating centre. Indonesia's Minister of Health says that this was when she first realised how corporations from rich countries were using the WHO network to gain patents and profits from the virus samples that poor countries like hers were sending in trust to the WHO. When the Indonesian government started demanding material transfer agreements (MTAs) from the WHO collaborating centres, it was firmly rebuked. So, unsurprisingly, Jakarta stopped sharing virus samples with the WHO and signed instead a private bilateral deal with a big US pharmaceutical company, Baxter International, who had agreed to produce and deliver vaccine to Indonesia on the government's terms.

Measly stockpile

After engaging in some nasty finger-pointing, the WHO eventually opened talks with Indonesia, and by the end of March 2007 announced that it had brokered a deal that would keep the virus samples flowing to the WHO network. But, in practice, little changed. Indonesia, along with China, continued to withhold virus samples while the numbers of H5N1-related patents increased rapidly.¹ At the same time, with the WHO's global stockpile of human bird flu vaccines standing at a mere 50 million doses, far short of the 1 billion that a pandemic would require, rich countries continued to place their own advance orders with the major vaccine producers, leaving little, if anything, for the countries worst affected by bird flu. Moreover, the WHO's much-vaunted initiative to help poorer countries to build up their own vaccine production capacity, something they'd repeatedly called for, was only inching along, with nothing yet to show.

As part of the March 2007 deal with Indonesia, the WHO promised to produce a new set of standard terms and conditions for the sharing of influenza viruses, and, to this effect, it organised an intergovernmental meeting in Singapore at the end of July 2007. But at the meeting Indonesia's demands, which were supported by Thailand, were

bluntly dismissed by the UK and the US. The UK objected to a proposed regulation that would stop WHO reference laboratories (that is, labs authorised to work with the WHO without having to satisfy such strict criteria as the collaborating centres) from seeking patents. It also warned that another proposed requirement, which would oblige these labs to get permission from the donor countries before transferring to third parties samples or information derived from samples, would be "very damaging to the ability to respond rapidly". On this same clause dealing with prior informed consent, the US demanded simply: "Strike this entire paragraph".² The WHO, for its part, once again joined the attack, with David Heymann, its assistant director for communicable diseases, accusing Indonesia of "putting in danger its own population, because if those viruses are not freely shared with industry, vaccines will not contain the elements of the Indonesia infection".³

The Singapore meeting failed to get through most of the proposed text, and a second meeting was set for November 2007. In the lead-up, Indonesia put forward a working document to set the record straight on the fundamental principles that it wants the WHO and its network of laboratories to abide by: national sovereignty over biological resources; the rights of states to determine access to their influenza viruses; the obligation for the WHO network labs to get prior informed consent from the countries that originally donated the viruses before transferring them to third parties; and, perhaps most importantly, no intellectual property rights (IPRs) on the viruses, their parts or derivatives for any "entity".⁴ These concerns were echoed in a statement put out by Third World Network and signed by 56 NGOs from around the world.⁵ Just to make sure that the assembled delegates got the message, Indonesia's Minister of Health, Siti Fadilah Supari, stood up on the first day and read out a statement denouncing the WHO influenza network as a "new type of oppression to developing nations".

Cold water

Indonesia was supported by Thailand, India, Brazil and, in particular, the Africa Group, which even proposed a text calling for the same prohibitions on IPRs. But the US and the EU were unmoved. Later that very day they once again poured cold water on Indonesia's requests. "We cannot accept any approaches that would undermine intellectual property rights", said John Lange, US special representative for avian and pandemic influenza. Instead he suggested that Indonesia would be better off worrying about "contingency plans for

1 WIPO, "Patent issues related to influenza viruses and their genes", Expert Report commissioned by the World Health Organisation, 2007. For a deeper analysis of the issue and the data see also: Edward Hammond, The Sunshine Project, "Some Intellectual Property Issues Related to H5N1 Influenza Viruses, Research and Vaccines", Third World Network, July 2007. <http://tinyurl.com/2dxd4t>

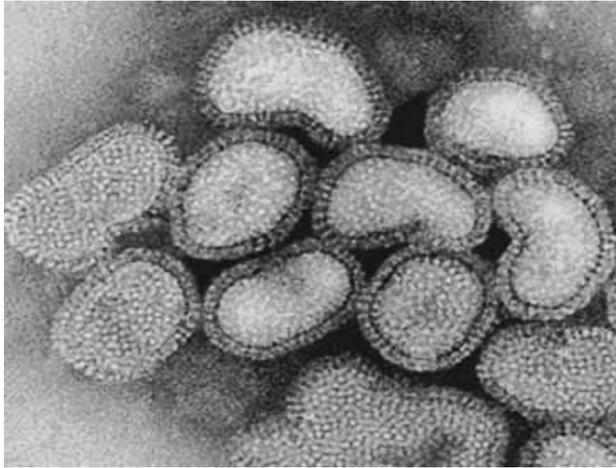
2 See Appendix Three of the Chairman's summary of the debate at the interdisciplinary working group on pandemic influenza preparedness. <http://tinyurl.com/yspdmq>

3 US Information Service, "Indonesia vs. samples for avian flu vaccines", 7 November 2007. <http://tinyurl.com/yomfm9>

4 "Fundamental principles and elements for the development of a new system for virus access and fair and equitable benefit sharing arising from the use of the virus for the pandemic influenza preparedness", proposed by Indonesia to be considered as a working document for the discussion in the Intergovernmental Meeting on Pandemic Influenza Preparedness (IGM-PIP), 20–23 November 2007. <http://tinyurl.com/255ejg>

5 <http://tinyurl.com/yjml7>





Avian flu viruses

school closings” than trying to resolve issues over access to vaccines.⁶ Three days later, the meeting ended without any progress towards a deal.⁷

The controversy around the sharing of bird flu virus samples has tainted international collaboration over other diseases as well, even those that are not zoonotic. China, for instance, recently balked at sharing samples with OIE/FAO reference laboratories from its devastating Porcine Respiratory and Reproductive Syndrome (PRRS) outbreaks in 2006–7, sparking a similar wave of accusations. “They haven’t really explained what this virus is”, said Federico A. Zuckermann, a professor of immunology at the University of Illinois College of Veterinary Medicine. “This is like SARS. They haven’t sent samples to any international body. This is really irresponsible of China. This thing could get out and affect everyone.”⁸

China, however, was one notch clearer than Indonesia in saying that intellectual property rights were the issue. After all, the potential global market for an effective PRRS vaccine is estimated at over US\$200 million, and the current line-up of PRRS vaccines is controlled by a few pharmaceutical corporations with patents over entire virus samples.⁹ So China, which unlike Indonesia has its own pharmaceuticals industry, decided to pursue the development of a vaccine within the country and to license out its production and distribution to its emerging Chinese animal pharmaceuticals corporations – which are also beginning to develop exports.¹⁰ Juan Lubroth, a senior officer with the FAO, says that the FAO is currently working with Chinese authorities to arrange for the transfer of PRRS virus samples to institutes outside the country – even facilitating MTAs, something that was earlier denied to Indonesia by the WHO for the bird flu virus. “We have stimulated the

sharing of the strain with other laboratories and are currently ensuring that MTAs are in place to protect the scientific and intellectual property of the scientists and institutes that are providing such material”, says Lubroth.¹¹ While MTAs may sound conciliatory, there is no guarantee that they will be fair, much less represent or respect the public interest.

Things moved very differently in Vietnam when the lethal variant of PRRS entered the country in 2007, probably from China. Before an FAO team was even on site, Hanoi sent samples of the virus to the US Department of Agriculture’s National Veterinary Diagnostic Laboratory at Plum Island. Plum Island, off the north-east coast of the United States, is under the jurisdiction of the US Department of Homeland Defense, a ministry set up under the Office of the President in the aftermath of 9/11. It is neither a reference laboratory nor a collaborating centre of the FAO/OIE. It does, however, form partnerships with pharmaceutical corporations, such as Merial, in the development of vaccines from its collection of viruses.

Dr Nguyen Van Long, of Vietnam’s Department of Animal Health, says that they chose to send the samples to the US facility because of the good relations that his department has with the US authorities. He also says that virus samples were later sent to an OIE reference laboratory in Australia and to the National Veterinary Laboratory in China. When asked about the terms and conditions for the transfer of the samples, he would say only that international and national biosecurity standards were respected.¹²

The military-industrial complex

Bilateral arrangements like the Vietnam–Plum Island deal are bound to become more common as UN agencies refuse to address the core problem of patents on viruses, vaccines and other technologies important to the control of global diseases. In the case of bird flu, Indonesia is already exploring bilateral options as alternatives. Meanwhile, the US, largely through its military–industrial complex, is busy building its own network of laboratories to locate and get control of virus samples from around the world, under the guise of protecting the country from bioterrorism. The US Naval Medical Research Units, for example, have mobile regional research labs stationed in Jakarta, Cairo and Lima, while the US Department of Defense’s Biological Threat Reduction Program (BTRP) operates in former territories of the Soviet Union. BTRP was set up to defuse bioweapons programmes of

6 Stephanie Nebehay, “UP-DATE1–Indonesia and US square off at bird flu talks”, Reuters, 20 November 2007. <http://tinyurl.com/2eu2rz>

7 Stephanie Nebehay, “WHO fails in giving developing nations access to bird flu virus”, Reuters, 24 November 2007.

8 “Virus spreading alarm and deadly pig disease in China”, *New York Times*, 16 August 2007.

9 For example, Boehringer Ingelheim has a patent in Canada (CA 2370372) that claims a PRRS virus deposited with the ATCC culture collection in the US under the Accession Number VR-2638, and a US patent application (20060286123) that claims any vaccines developed with PRRS virus strains deposited in the European Collection of Cell Cultures under the Accession Numbers ECACC 04102703, ECACC 04102702, and ECACC 04102704.

10 Two of these corporations are the Jinyu Group and China Animal Husbandry Industry Company (CAHIC). These two companies were also the official suppliers of bird flu vaccines for poultry within China.

11 Personal email communication, 8 November 2007.

12 Personal email communication, 23 November 2007.



previous Soviet republics, but it also has a mandate to establish and expand US involvement in research on infectious diseases in the area, with the specific task of transferring samples of pathogens to US labs.¹³

There is very little information available on the work that these BTRP-linked labs are engaged in. The unit in Kazakhstan is working on bird flu vaccines and actually developed and tested one there. That lab houses and presumably conducts research on a number of the most serious animal disease pathogens, such as African swine fever and anthrax. In nearby Georgia, the programme is constructing a US\$90 million central reference laboratory that will consolidate all of the country's pathogen collections, with a direct open channel for transferring biological samples to the US.

Secrecy, whether it is in the workings of the WHO collaborating centres or around the US's global network of labs, is a cause for grave concern. For one thing, it facilitates patents that prevent poor countries from gaining access. Also – and this is a point stressed by the Indonesian government – it raises serious questions about bioterrorism. What guarantees does a country like Indonesia have that the viruses collected within its borders and sent out of the country won't someday be used for the development of bioweapons? On what grounds could it possibly trust in the “good will” of the rich countries and their massive arms industries? There is also the nagging question of biosecurity within these labs. A recent outbreak of foot and mouth disease in the UK was caused by the leak of the pathogen from one of the most modern laboratory facilities in the world, with a second leak from a Merial lab at the same location confirmed a few months later, this time apparently without an outbreak among animals. Certainly such a scenario could just as easily occur in a place like Georgia, even though the experts appear not to have even considered it as a possible source of the recent African swine fever outbreak.

In sum, three key problems are plaguing the global system that governments are now developing to deal with animal diseases that threaten human health. The first is information. There is an incredible lack of transparency around the whole scientific research infrastructure dealing with animal diseases and their human health implications. Connected to this, media coverage of these issues is a problem as well. Media are frequently dissuaded from covering animal health crises and disease research, sometimes through gagging orders, and, when they do report,

they usually do a poor job. For instance, there is little or no information available about the PRRS crisis in China, and avian flu became a “global issue” only when it threatened the European Union. Second, the privatisation of viruses, vaccines and related materials and technologies for commercial purposes (whether state or private) is totally against the public interest. Trade agreements make it obligatory to patent microorganisms – and, as they don't define what these are, the sky's the limit [see “CAFTA and the Budapest Treaty” on page 33]. This translates into direct political and corporate pressure to get away with whatever is possible. Given that the threat of a human pandemic from infectious disease has never been as great as it is today, the stakes are just too high to allow exclusive monopolies over influenza and other pathogens, whether the patents are held by governments or corporations.¹⁴ Finally, the growing intrinsic connection between health R&D and military use – supported by powerful new technologies – argues in favour of much stricter oversight and control over the global movement of, and investigation into, animal-borne disease pathogens.

Neither the multilateral system, with key UN agencies playing an ineffective mediating role between highly competitive states and commercial interests, nor secretive bilateral deals between governments and/or corporations, inspire confidence. But greater social action on these issues will not be forthcoming without more information about what is really going on. 

Resources & going further

- Statement by the Minister of Health of the Republic of Indonesia, HE Dr Siti Fadilah Supari, at the Intergovernmental Meeting for Pandemic Influenza Preparedness (IGM-PIP), Geneva, 20 November 2007.
- <http://tinyurl.com/23sg48>
- Documentation for IGM-PIP, 20–23 November 2007. <http://www.who.int/gb/pip/>
- Edward Hammond, The Sunshine Project, “Some Intellectual Property Issues Related to H5N1 Influenza Viruses, Research and Vaccines”, Third World Network, July 2007. www.twinside.org.sg/avian.flu_papers.htm

¹³ Shawn Cali, Program Manager, CTR Orientation Biological Threat Reduction Program (BTRP), 12 April 2007. <http://tinyurl.com/2cfru7>

¹⁴ “WHO warns of global epidemic risk”, BBC, 23 August 2007. <http://tinyurl.com/23zvw7>

