

footnote reference to the IPCC's fourth assessment report, without mention of the numerical range on reductions. Many feel that this concession amounts to sidelining the science, and risks narrowing the window of opportunity to avert dangerous climate change.

Amid all the drama, the real blows were reserved for a grand finale on Saturday, when worn-out delegates wrangled over one remaining issue — whether rich nations should provide “verifiable, measurable and reportable” technological aid to developing countries. Seemingly inspired by Al Gore's speech on Thursday urging delegates to sidestep the “obstructionist” United States, and following much booing and hissing at the US delegation, Kevin Conrad, Papua New Guinea's ambassador for climate change, stated: “If you cannot lead, leave it to the rest of us. Get out of the way.” In an eleventh-hour turnaround, the United States conceded.

“Bali has delivered what it needed to do,” says Yvo de Boer, the executive secretary of the UN convention on climate change, calling the agreement “ambitious, transparent, and flexible”. Perhaps most importantly, it has succeeded in bringing what may still be the world's largest emitter back to the table. But whether the ‘flexibility’ that was required will ultimately provide a means of manoeuvring out of real emissions reductions remains to be seen. ■

**Olive Heffernan**

See Editorial, page 1127.



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## Q&A: Siti Fadilah Supari

Indonesia has been hit by more human deaths from the H5N1 bird-flu virus than any other country, yet it refuses to share its virus samples with the World Health Organization (WHO). **Declan Butler** talks to Indonesia's health minister.

### Why is Indonesia withholding samples that could track the virus's evolution and help produce a vaccine?

Indonesia is open to international collaboration but this must be fair, transparent and equitable. The WHO's Global Influenza Surveillance Network system is obviously unfair and opaque. Samples shared become the property of the WHO collaborating centres in rich countries, where they are used to generate research papers, patents and to commercialize vaccines. But the developing countries that supply the samples do not share in these benefits. In the event of a pandemic, we also risk having no access to vaccines, or having to buy them at prices we cannot afford, despite the fact that the vaccines were developed using our samples.

The above mechanisms can lead to a vicious cycle, in which poor countries become poorer because they have diseases, and industrialized countries become richer at the expense of poor countries. As a consequence, there will be some people who will create diseases and take advantage of the situation. This is a form of neo-colonialism and neo-capitalism.

### What would it take to end the deadlock?

Earlier this year, the WHO adopted a resolution accepting the need to ensure fairer sharing of benefits to help developed countries prepare for and respond to a pandemic. Last month in Geneva we agreed concrete steps towards this goal. The first is that the WHO will develop a tracking system for viruses we send abroad. The second recognizes that sharing must respect national laws, which means that Indonesia will be free to assert its rights over samples. We are willing to share viruses for research purposes but if a commercial company wants to create a vaccine from those samples, then it must negotiate with Indonesia, which has rights over the samples.

But the key outstanding concession Indonesia demands is that all shared virus samples be subject to a material transfer



agreement clearly setting out such rights. We already share our virus-sequence data with the Global Initiative on Sharing Avian Influenza Data (GISAID), a body created last year. I consider GISAID has established a fair and transparent mechanism for regulating genetic-sequencing databases because it includes a material transfer agreement.

### Why is Indonesia not as successful as its neighbours at controlling H5N1?

Vietnam, as a centralized socialist country, can get high compliance on national policies and so has succeeded, for example, in implementing rapid culling of birds. Thailand's monarchy is well respected, resulting again in good compliance. In contrast, Indonesia is in transition towards a decentralized democracy after three decades of authoritarian national rule. We are still on a learning curve, and compliance of the relatively independent regional authorities with national policies is often poor. Indonesia is made up of more than 17,000 islands, which again complicates compliance.

The cultures are also different. Birds play an important role in Indonesian culture — pet singing birds are considered signs of respectable households, for example. In rural communities, backyard farming is a major income source, and has been a key element in improving nutrition.

But bear in mind that Indonesia has a population of more than 200 million, so one needs to keep in perspective the total of 113 cases of H5N1 — I'd argue that we've been fairly successful in controlling the disease.

### But scientists say that Indonesia is still not doing enough.

It is the international scientific community that delays the acquisition of critical knowledge. If they wish to have rapid results, why don't they come to Indonesia and work with our scientists here? We have the necessary facilities, such as biosafety level-3 secure labs and good Indonesian scientists. That would also put an end to disputes over virus sharing. ■

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