

News in focus

countries and 18 LMICs – are slated to review a proposal, posted to the GEF’s website, to establish the fund with at total of at least \$200 million from at least three donors by December. But sources say that donor countries are reluctant to agree on any initial budget for the GEF, preferring to set up the trust fund first and then discuss funding pledges. LMICs, by contrast, say that the initial amount proposed is not enough. Researchers have suggested that the amount needed to fully safeguard and restore nature is around \$700 billion.

Brian O’Donnell, the director of Campaign for Nature, a conservation advocacy group based in Durango, Colorado, says that the success of the framework depends on donor countries making good on their pledges to increase biodiversity funding. In addition to agreeing to contribute \$30 billion annually by 2030, wealthy countries said that they would help to find \$200 billion per year from private and public sources by 2030. But the countries have not yet started to deliver on these promises.

“We need real money from donor countries,” O’Donnell says.

In a statement to *Nature*, a spokesperson said that the GEF is “optimistic” that this week’s council meeting will approve the trust fund. The ongoing discussions are “typical in multilateral environmental diplomacy”, they said.

Biodiversity delays

LMICs are keen to see whether establishing the trust fund in the GEF is a “genuine” move by donor countries to avoid the logistics and costs of an independent fund, allowing for faster money transfer, as they stated during COP15 negotiations, says Paul Matiku, executive director of Nature Kenya, a conservation organization in Nairobi.

Daniel Mukubi, a negotiator of the biodiversity-framework deal for the Democratic Republic of the Congo (DRC) who is based in Kinshasa, told *Nature* that some nations are not happy and are holding out for an independent fund. LMICs don’t have an adequate say in how the GEF funds are spent, he says. The DRC and other LMICs will not agree to the trust fund until after discussions on an independent fund, he adds. “We will not give up.”

These tensions could stall the trust fund’s adoption, which was planned for a GEF assembly in August, delaying biodiversity action even more – as it is, the Kunming-Montreal framework was agreed two years late, owing to the COVID-19 pandemic. Meanwhile, the clock is ticking: researchers have estimated that one million species are under threat of habitat loss because of factors such as climate change and agriculture.



DOUGLAS MAGNO/AFP VIA GETTY

Laboratories in countries such as Brazil sequence the genomes of SARS-CoV-2 variants.

‘PANDEMIC TREATY’: NATIONS WRESTLE WITH SHARING VIRUS DATA

Researchers say a global plan is needed if the world is to prevent the next pandemic.

By Mariana Lenharo

Earlier this month, negotiators met to discuss the latest draft of a ‘pandemic treaty’ – an agreement among countries worldwide about how to best respond to the next massive disease outbreak. One sticking point in the draft is how to compensate countries fairly for sharing viral genome sequences.

During the COVID-19 pandemic, researchers in countries from Brazil to South Africa to India kept tabs on how SARS-CoV-2 was evolving by determining the genetic sequences of viruses collected from infected people. They then uploaded those sequences to online data-sharing platforms, enabling the development of vaccines. But many of the countries that uploaded sequences were slow to receive the shots that were produced, if they got them at all.

This disconnect sets up a situation in which disease-affected countries might one day decide to keep information to themselves – an outcome that could be disastrous globally. To rein in a future pandemic swiftly, an equitable system for sharing data is needed, researchers and officials say.

The hope is that the pandemic treaty will

establish such a system, but, as negotiations have shown, it will be difficult to get countries to agree on what it should look like. “There’s room for agreement, because all countries want a reliable system,” says Suerie Moon, a global-health-policy researcher at the Geneva Graduate Institute in Switzerland. But “hammering down the details is not easy”.

A global-health controversy

Countries have decided not to share viral information for free before. In 2007, Indonesia stopped sharing samples of the avian influenza virus H5N1 with the World Health Organization (WHO), which monitors influenza globally and makes recommendations for vaccine composition. At the time, H5N1 was spreading globally and Indonesia had the highest number of infections in humans.

The nation made its decision because a pharmaceutical company in Australia intended to use a viral sample provided by Indonesia to develop an H5N1 vaccine – a product that the middle-income country would probably have struggled to afford. Withholding samples was Indonesia’s way of protesting against what it saw as an unfair system.

The controversy eventually led to the development of the Pandemic Influenza

Preparedness Framework, WHO guidance that sets the ground rules for data sharing in exchange for access to vaccines and other benefits. But the rules, adopted in 2011, apply only to influenza viruses.

At the moment, access to data on other viruses is, in theory, governed by the Convention on Biological Diversity (CBD), an agreement signed by 196 nations to protect the world's flora and fauna. In 2010, a supplementary agreement, the Nagoya Protocol, was added to the CBD, stating that any company or researcher seeking to use genetic resources from a specific country – including viral samples – must obtain permission from that nation and reach an agreement on how the parties will share any benefits from that material.

But these agreements don't regulate the sharing of data, including viral genomes, and didn't prevent inequity during the COVID-19 pandemic. For example, South Africa, which alerted the world to SARS-CoV-2 variants such as Omicron and Beta, has been able to fully vaccinate only around 40% of its population against COVID-19.

Some public-health specialists think oversight of viral-genome benefit sharing should be given to the WHO, an agency geared towards public health. The latest draft of the organization's pandemic treaty dedicates an entire article to the subject, with an eye towards establishing that oversight.

The draft is a "big deal" because it aims to put pathogens, specifically those with pandemic potential, under a public-health-focused framework, rather than a biodiversity framework, says Amber Hartman Scholz, head of the science-policy department at Leibniz Institute DSMZ, which houses a collection of microorganisms and cell cultures in Brunswick, Germany.

A difficult negotiation

But for the pandemic treaty to govern benefit sharing for pathogen data, a number of hurdles will need to be overcome.

Many low- and middle-income countries won't want the accord to contain any legal obligation that they monitor for potential pathogens and make the data available internationally, says Pierre du Plessis, one of Africa's lead negotiators on genetic resources, based in Windhoek, Namibia. "We are all quite concerned about protecting the sovereign right to control access to genetic resources, and not giving that up without at least getting something substantial in return," he says.

By contrast, pharmaceutical companies say that transactional agreements, in which they must make a deal with a nation amid a crisis, cause delays in the development of treatments and vaccines. They also lead to the "serious politicization of pathogen sharing", says Thomas Cueni, director-general of the International Federation of Pharmaceutical

Manufacturers and Associations (IFPMA), based in Geneva.

Potential solutions to the problem have come from all sides. One, proposed by a group of African nations during the CBD negotiations, would be to deposit into a global fund 1% of retail sales from products, such as vaccines and diagnostic equipment, developed

"There's room for agreement, because all countries want a reliable system."

with viral genome sequences. "Let's use that money to support conservation, sustainable use, capacity development and technology transfer," du Plessis says.

Pharmaceutical companies have proposed another option. "Companies, looking at what happened in the pandemic, said that we are willing to commit part of our real-time production" of vaccines and other products "for immediate allocation by international institutions to populations in developing countries", Cueni says. IFPMA has formally presented this

solution in a proposal it has called the Berlin Declaration. In return, pharma firms would expect governments to guarantee the "immediate and unhindered" sharing of data.

Next steps

Which solution will be incorporated into the pandemic treaty remains to be seen. Currently, negotiators are discussing whether to include language that incentivizes data sharing by ensuring that, for example, a specific proportion of pandemic-related products are distributed in low- and middle-income countries. The international committee responsible for drafting the treaty has less than one year to come to a consensus and submit a final version to be voted on by the WHO's member states at the next World Health Assembly in May 2024.

Some still hold out hope that a strong commitment to low- and middle-income countries will be inserted into the document. If countries aren't motivated to share information, says epidemiologist Salim Abdool Karim, director of the Centre for the AIDS Programme of Research in South Africa, based in Durban, "then that basically means we won't have a global early-warning system in place to prevent the next pandemic".

JWST HINTS AT LOWER NUMBER OF HABITABLE PLANETS

Data from the telescope suggest that a second world in a seven-planet system lacks an atmosphere.

By Alexandra Witze

For the second time, the James Webb Space Telescope (JWST) has looked for and failed to find a thick atmosphere on an exoplanet in one of the most exciting planetary systems known. Astronomers report¹ today that there is probably no tantalizing atmosphere on the planet TRAPPIST-1 c, just as they reported months ago for its neighbour TRAPPIST-1 b.

There is still a chance that some of the five other planets in the TRAPPIST-1 system might have thick atmospheres containing geologically and biologically interesting compounds such as carbon dioxide, methane or oxygen. But the two planets studied so far seem to be without, or almost without, an atmosphere.

Because planets of this type are common around many stars, "that would definitely reduce the amount of planets which might be habitable", says Sebastian Zieba, an exoplanet

researcher at the Max Planck Institute for Astronomy in Heidelberg, Germany. He and his colleagues describe the finding in *Nature*.

System with star power

All of the seven TRAPPIST-1 planets, which orbit a star some 12 parsecs (40 light years) from Earth, have rocky surfaces and are roughly the size of Earth. Astronomers consider the system to be one of the best natural laboratories for studying how planets form, evolve and potentially become habitable. The planets are a key target for JWST, which launched in 2021 and is powerful enough to probe their atmospheres in greater detail than can other observatories such as the Hubble Space Telescope.

The planets' host star emits large amounts of ultraviolet radiation, which could erode any atmosphere on a nearby planet. The system's innermost planet, TRAPPIST-1 b, is blasted with four times the amount of radiation that