

Valuing 'natural capital' vital to avoid next pandemic, global experts warn

December 2 2020, by Carol Clark



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Pandemics will emerge more often, kill more people than COVID-19 and do even more damage to the world economy unless urgent steps are taken to address risk drivers such as deforestation, warns a major new

report on biodiversity and pandemics.

The report, titled "[Escaping the Era of Pandemics](#)," was made public by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), which includes United Nations members from more than 100 governments. The report is the result of an urgent workshop organized by the IPBES. The workshop brought together 22 experts to evaluate scientific evidence and make recommendations to control and prevent future pandemics, detailed in the report, which IPBES members will now consider whether to endorse.

"The two biggest driving forces for pandemics are forest degradation and industrial animal production," says Thomas Gillespie, an associate professor in Emory's Department of Environmental Sciences and Rollins School of Public Health, who served as a scientific peer reviewer for the report. "Greater management and surveillance of wet markets, where live animals are sold, is also important."

Every major economic decision, Gillespie warns, needs to take into account what he calls "[natural capital](#)" in order to avoid even bigger catastrophes than the current [pandemic](#).

The [economic costs](#) of a major pandemic are 100 times the estimated costs of prevention, the report notes. It recommends government policy changes to reduce globalized agricultural expansion and the types of trade that have led to pandemics. Some of the possible measures it cites are taxing meat consumption and livestock production and reforming financial aid for land use to consider risks to biodiversity and health.

Like all pandemics, the emergence of the novel coronavirus was driven entirely by human activities, the report states. The authors estimate that another 1.7 million currently "undiscovered" viruses exist in mammals and birds—and nearly half of them may have the potential to infect

people.

National governments need to incorporate a "One Health" approach—considering the deep connections between the health of people, domesticated animals, wildlife and ecosystems—to build pandemic control and prevention efforts, the report adds.

Gillespie is a disease ecologist who helped pioneer the "One Health" approach to protect humans, ecosystems and biodiversity. His projects in Africa, including collaborating with Jane Goodall at Gombe National Park in Tanzania, are focused on helping farmers subsisting amid fragmented forests co-exist with primates and other wildlife in ways that minimize the risk of pathogen exchange between species, known as "spillover." HIV, for instance, spilled over from chimpanzees to humans. Infectious disease and deforestation are the two biggest challenges facing chimpanzees at Gombe today, according to a newly published study led by Goodall and co-authored by Gillespie.

The Gillespie Lab has a similar project in Costa Rica, focused on bats in fragmented natural ecosystems.

Now, Gillespie finds himself virtually managing his lab's field projects while also advising global policymakers. "More people are listening," Gillespie says. "This pandemic has fueled awareness that a One Health approach applied on a grand scale is vital to both local and global economies."

In the following Q&A, Gillespie explains the seismic shifts he says are needed to protect global health and economies against the impacts of pandemics.

What do you mean exactly by "natural capital"?

Natural capital consists of ecosystems of nature that sustain us. Human activity has driven an overall global decline in natural resources of 40 percent per capita in just over 20 years. Our economies, our health and our well-being are all built upon natural capital.

There is growing recognition that we are totally dependent on the natural capital of our planet and that perpetual economic growth is not sustainable. We've had a false sense that we can simply measure the success of countries and policies through gross domestic product and economic growth, even when it means we are taking loans from nature that we have no capacity to repay.

The rising risks of pandemics has caught the attention of people who are in charge of economies because COVID-19 is immediately affecting bottom lines. Every country is feeling the pain simultaneously, at both individual and national levels.

Is it possible for human development and conservation to co-exist?

When people talk about development from an economic standpoint it involves conversion of natural resources for profit, often by degradation of ecosystems via mining, timber cutting, oil extraction or clearing for cash crops. But when we talk about development from a sustainability perspective, we're talking about improving the quality of human life.

Use of the word "development" in these different ways can lead to a great deal of confusion. The urgency of the coronavirus pandemic is helping to break the silos down so that people from both camps can come together to think about solutions. There is growing recognition that instead of just considering whether a [land-use](#) project will impact a certain endangered species, we need to have mechanisms to evaluate

more broadly how projects may impact the health of wildlife, people and an entire ecosystem.

Right now, those profiting from economic development are not the ones paying the costs. The data shows very clearly that you can have a high GDP ([gross domestic product](#)) and also have plenty of poor people and a large proportion of a population struggling to survive. There is not a clear linkage between gains in the stock market and the quality of life for the average citizen.

How does climate change fit into this "One Health" approach?

Although many have rallied behind mitigating and adapting to climate change, it's just one of the troubling vital signs of the planet. Climate change, biodiversity loss and the ever-increasing risks of pandemics are all symptoms of the same illness—our disconnect with nature and associated unsustainable norms.

We've long needed to bring together climate scientists, disease ecologists and policymakers from agriculture, financial and environmental systems to tackle the illness instead of just having them all separately focus on individual symptoms. This shift is occurring, discussions are happening. The challenges are enormous, but at least now everyone has come together at the same table to try to work toward solutions.

What are some examples of individual countries taking on these challenges?

U.S. President-elect Joe Biden has vowed to rejoin the Paris Agreement for carbon reductions and set a 2050 carbon neutrality target. That holds huge implications for global climate diplomacy and will also create

opportunities to rally behind shared solutions to prevent future pandemics and to safeguard the planet's [ecosystem services](#) upon which our collective future depends.

Some governments are beginning to remove environmentally harmful subsidies and redirecting incentives for a green recovery. In fact, New Zealand, Scotland and Iceland are recasting their entire economic frameworks to officially prioritize human well-being and planetary health over GDP.

New Zealand developed a "Living Standards Framework" to set its budget. Bhutan now shapes policy to advance what it calls its "Gross Happiness Indicator." Similarly, the world's largest sovereign wealth fund—the Norwegian Government Pension Fund—has divested from 32 companies involved in unsustainable palm oil production.

These kinds of initiatives are leading the way to build a better future together.

More information: [Escaping the Era of Pandemics](#)

Provided by Emory University

Citation: Valuing 'natural capital' vital to avoid next pandemic, global experts warn (2020, December 2) retrieved 9 May 2024 from <https://phys.org/news/2020-12-valuing-natural-capital-vital-pandemic.html>

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