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Earth Day and One Health

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I like this pop quiz that appeared in CNN recently: Which of these could put you at increased risk during the COVID-19 pandemic? The choices were: (1) not washing your hands, (2) gathering in large groups, and (3) air pollution.

CNN said the correct answer was: all of the above.

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I'm amazed at how we worry about so-called germ warfare and the stories that this virus was created by the Americans (according to some Chinese) or by the Chinese (according to some Americans).

As we fret over those conspiracy theories, we don't see how the rise of COVID-19 has been linked to environmental destruction. Even more disturbing, it seems that even as we battle COVID-19, we face a possible resurgence of earlier diseases and new diseases, especially from coronaviruses.

It almost seems like the COVID-19 virus conspired to have this pandemic raging on April 22, which was Earth Day. This would have been the 50th anniversary of an event that started small in the United States but has since spread throughout the world. Because of the pandemic, there were no large gatherings to commemorate Earth Day, and so less publicity on the theme of saving the environment to save us from coronaviruses.

It would have been good, too, to talk about the need for a "One Health" approach, linking human health to the health of the environment and of nonhuman animals.

What are the links here?

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The main culprit is us, humans, in the way we treat our natural environment. We have used up more and more resources, polluted the air, land, and water, and encroached more and more into the territories of wildlife, both plants and animals.

Coronaviruses are found in many nonhuman animals and are constantly mutating. If humans come in close contact with wildlife carrying these coronaviruses—and this seems to be happening mainly because we're living nearer to and eating more of these wildlife—some of the mutated viruses which used to affect only the wildlife can then “jump” the species barrier and will be able to infect humans. SARS was an example, the virus jumping from bats to civets and then to people.

The COVID-19 virus is a mutation from a virus that may have been in bats.

It was a perfect fit, the mutated version now able to latch on to our cell surfaces, allowing the virus to enter our cells and hijack them to start producing more of the virus.

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We have to start recognizing how the virulence of diseases increases because of environmental changes. An example is malaria, a much older disease that used to be blamed on “bad air” (mal aire) but is actually caused by a Plasmodium (a one-celled organism, amoeba being another example) transmitted by the Anopheles mosquito. The disease and the mosquito have been around for centuries, but malaria, as a human disease, became a problem only with the rise of agriculture.

Agriculture needed irrigation, which meant accumulated water where the Anopheles mosquito could breed. Agriculture also meant deforestation, which was aggravated by other human activities: logging, road construction, changing the ecosystem's sunlight, temperature, and humidity, all changes that favored the Anopheles.

(Note, too, how dengue fever, also transmitted by mosquitoes, spreads more quickly in urban areas where we also have more stagnant water.)

Let's get back to our current problem with COVID-19.

Disease-causing viruses love crowds because it's our congested conditions that make it easier for them to spread. I worry about some of our barangays, with populations from 30,000 to 250,000, larger than some of the municipalities and even cities. The virus causing COVID-19 generally travels through infectious droplets from patients' coughing and sneezing up to about 6 feet, and I have seen urban poor homes whose length or width, as well as the distance between homes, is less than that.

At least one study has come out, too—the one I read came from Italy—finding that places with more air pollution also had higher infection rates. The study is not conclusive and comes only from one country, but I wouldn't be surprised if there was indeed a link, with COVID-19 mainly affecting the respiratory system.

The quarantine may be helping us battle COVID-19 not just because of physical distancing, but also because it has meant cleaner air. But who knows what will happen when we go back to the “new normal,” which might mean so much of the old “abnormal” in terms of environmental destruction.

Let's tackle coronaviruses, and diseases in general, with a more comprehensive One Health approach.

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