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## What can COVID-19 teach us about responding to climate change?

Coronavirus disease 2019 (COVID-19) emerged in December 2019 in Wuhan City, Hubei province, China, manifesting as pneumonia in humans.<sup>1</sup> As of April 22, 2020, nearly 2.6 million people had been infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) globally, resulting in more than 179 000 deaths. COVID-19 will continue to cause much human misery and suffering, and massive disruptions to many aspects of our lives and the global economy. For a range of global scenarios, global gross domestic product losses in 2020 have been estimated to be between 1.3% and 5.8%,<sup>2</sup> although the effects on the global economy are hugely uncertain.<sup>3</sup> For the same set of scenarios, an estimated range of deaths of 15–68 million through to the end of 2020 has been estimated.<sup>2</sup> Whatever the uncertainty in such estimates, these orders of magnitude describe a global catastrophe; the upper end of the range is almost as high as the number of people who died in World War 2, and 70% more than the total number who died in World War 1.

In response, governments have been taking a range of different measures, and at different speeds, including closing of schools and workplaces, cancelling public events, closing or severely curtailing public transport, lockdown of hundreds of millions of people, and restrictions on domestic and international movement to name a few. Some governments have already taken fiscal measures to stimulate their economies via increased spending and tax cuts, some have taken monetary measures, such as increasing interest rates, and others have made emergency investments in health care or vaccine development, or both. As of April 22, 2020, the amount allocated by governments globally

to these measures is US\$8.4 trillion, the vast majority of which is related to fiscal measures (94%) and the rest is related to emergency investment in health services and vaccine development.<sup>4</sup> Almost all this funding has been committed by governments since mid-February, 2020.

The major lesson we take from this investment is that behavioural responses to global challenges can be both massive and rapid, which applies equally to the general citizenry and to governments. Even if not perfect, and with losses of lives, jobs, and businesses, the speed and scale of resource mobilisation and development of safety nets shows that with sufficient determination, major changes can be accomplished very quickly.

The Global Commission on Adaptation was set up in 2018 to make recommendations on climate adaptation related to food security, the natural environment, water, cities and urban areas, infrastructure, disaster risk management, and finance. The Commission estimated the benefits of new investment in five areas: early warning systems, climate-resilient infrastructure, improved dryland agriculture crop production, global mangrove protection, and investments in making water resources more resilient. An investment of \$1.8 trillion globally from 2020 to 2030 could generate up to \$7.1 trillion of total net benefit associated with avoided losses, reducing risk, increasing productivity, and driving innovation and social and environmental protection.<sup>5</sup> Although this number is not the sum total of all the adaptation needed across all sectors, the investments recommended by the Global Commission on Adaptation would go a considerable way to addressing the adaptation needed in the food systems of many lower-income and middle-income countries.

For all we know, the anthropocene might be an epoch rich in existential threats. Yet governments have

found \$8 trillion to help combat the spread and effects of COVID-19 in just 10 weeks. Surely, governments can find \$1.8 trillion in the coming decade to combat the effects of climate change on food and livelihood systems and the many hundreds of millions of highly susceptible people in lower-income and middle-income countries, while at the same time pursuing aggressive emission reductions to achieve the 1.5°C global warming goal. We should treat this situation with the same urgency as the COVID-19 pandemic, before we risk additional disruptions of incalculable magnitudes.

We declare no competing interests.

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For more on COVID-19 cases and deaths see <https://www.worldometers.info/coronavirus/>

For the Global Commission on Adaptation website see <https://gca.org/global-commission-on-adaptation/adapt-our-world>