

Opinion **Scientific research**

Science funding must remain after the crisis

Research communities are not born overnight; to remain, investment must be secure

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Audrey Azoulay 54 MINUTES AGO

For decades, scientists have warned that a pandemic was a question of “when”, not “if”. “Few doubt that major epidemics and pandemics will strike again and few would argue that the world is adequately prepared,” wrote Victoria Fan in a [World Health Organisation bulletin](#) in 2018.

And yet for governments, true preparedness comes at a price. Why repair the hole in your roof when it’s not even raining? Well, because inaction is also expensive. When disaster struck from the December 2004 tsunami in the Indian Ocean, it claimed [well over 200,000 victims](#), and left 1.5m homeless. With losses estimated at more than \$7bn, the early warning system advocated by scientists for years suddenly became the top priority for governments bordering the Indian Ocean. With the technical assistance of Unesco’s Intergovernmental Oceanographic Commission and strong international support, [the system was up and running](#) within a few years. It will repay its investors in both lives and reconstruction costs saved.

We must learn our lessons and commit to investing in research and development. Confronted with the pandemic, governments are turning to the scientific community. Suddenly, they're pledging money to research teams racing to develop a vaccine. These pledges must not be forgotten once the crisis is over. Scientific communities are not born overnight; they must be developed over time, and funding must be secure.

To ready themselves for the next epidemic, governments must train and retain a critical mass of experts. This can be achieved quickly if the political will is there. Between 2006 and 2017, China increased its [researcher intensity](#) by 34 per cent from 921 to 1,235 researchers per million in habitants.

But, according to [data](#) from the Unesco Institute for Statistics, investment in scientific R&D has hit a plateau, or even dipped slightly over the past decade. Many countries are not on track to reach their own spending targets for research — even though some middle-income countries, such as Brazil, China, Egypt and Turkey, have increased. In 2017, this income group accounted for 36 per cent of global research expenditure, up from 30 per cent in 2012.

Recruitment is also a problem. The forthcoming Unesco Science Report, which monitors trends in science governance, highlights a sharp decline in science graduates pursuing research careers in the public sector in Central Asia, south-east Europe and west Africa. Low salaries, outdated equipment and paltry research budgets are a deterrent.

Because Covid-19 doesn't respect borders, we must improve international scientific collaboration. The solidarity of the global scientific and medical community at the start of this pandemic is the blueprint for the future. Chinese scientists sequenced the genome of the new coronavirus on January 11 and posted it online, enabling German colleagues to develop a screening test, which was then shared by the WHO with governments everywhere.

Unesco is working to build a consensus between its 193 member states on progress towards such "Open Science". We're pushing for shared, global access to data, research, publications and technological innovations. Our recently launched online consultation progress will help us establish a set of global principles, and propose a UN recommendation on open science.

In this pandemic we have seen a surge of support among our member states for this agenda. They now are unanimously calling on us to form an international coalition to respond to pandemics, environmental crises and other global threats. Prior to the current crisis the appetite was not evident.

Attitudes are changing fast; this crisis can be a catalyst for progress. Let's hope the Covid-19 pandemic becomes a springboard towards increased funding and greater international scientific collaboration.

The writer is director-general of Unesco

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