## Politics, Profits & Pandemics: Earth's Worst-Case Scenario

The year 2020 was one for the record books: an estimated 90 million people were driven into extreme poverty; it tied for the hottest year on record, with soaring global temperatures and heat waves resulting in thousands of fatalities; and in any given month, 19% of our planet's land area was stricken by severe drought, affecting yield potentials for staple crops like corn, wheat and soybeans. Meanwhile, glacier retreat, biodiversity loss and rising sea levels continued apace.[1] Women, people over 65 and babies, agricultural workers and the poor were—and still are—the hardest hit.

Global crises including the COVID-19 pandemic, a worldwide recession and geopolitical tensions in both hemispheres contributed to the bleak backdrop against which the United Nations held its 26th annual Climate Change Conference (COP26; November 2021). The key takeaways? We are nowhere close to cutting greenhouse gas emissions to maintain a livable climate and there is an egregious gap in financing and political will to reverse this disastrous course; Paris Agreement targets to help reach this goal are falling appallingly short; and low- and middle-income countries are the most vulnerable to human-induced climate change despite high-income countries producing the most greenhouse gases.[1,2]

The results from COP26—non-binding and without teeth—were dispiriting. UN Secretary-General António Guterres said "the approved texts are a compromise...unfortunately the collective political will was not enough to overcome some deep contradictions."[3] Guterres put it more bluntly at the follow-up meeting of the International Panel on Climate Change (IPCC) in February 2022, stating that the "IPCC report is an atlas of human suffering and a damning indictment of failed climate leadership."[4,5]

Guterres does not overstate the case. Today, 26% of the global population does not have access to safe drinking water;[6] over 25% have no access to basic sanitation services and 29% have no access to basic hygiene—including the possibility of washing with soap and water at home. In Central and Southern Asia, 42% cannot wash at home with soap and water and in Sub-Saharan Africa, 75% of people don't have this capability.[7] One in four people around the globe (1.9 billion) are moderately or severely food insecure[8] and 267 million people in coastal communities are at imminent flood risk due to severe weather events and rising sea levels.[9]

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"no country is meeting the basic needs of its residents at a globally sustainable level of resource use and no country is on track to do so."[10] The alarm has sounded and the

warning signs (i.e. evidence-based science) are clear. It is incumbent upon all of us to make—and demand—urgent change.

One lesson hammered home by the current pandemic is that we do not have the luxury of time, compromise or half measures. The Earth's climate system is already dangerously vulnerable; if we continue to consume and pollute at the current rate, gains made on food and water security, carbon offsetting and global warming

will be lost.[1] The worst-case scenario of an uninhabitable planet is no longer relegated to science fiction.

Another lesson from the pandemic is that planetary and human health are intimately intertwined. The steady destruction of our biosphere optimizes conditions for deadly pathogens to flourish in water, food and air, and exacerbates vector-borne diseases like dengue, Zika and malaria, as well as zoonotic viruses, including SARS-CoV-2. Given the ecological reality and the uncertain climate resiliency of our planet, it's not surprising experts agree that COVID-19 will not be the last, nor the worst, pandemic.[11]

The planet's health, our health, will brook no delay. Every day, the gap widens between what needs to be done to address climate change and what is actually being done. To bridge that gap, leaders need to be held to tenets of good governance, including pandemic preparedness, evidence-based policymaking and collaboration over confrontation; population and planetary health should be prioritized in policy, practice and research; and access to basic health services must finally be guaranteed as a fundamental human right—across the globe.

"The idea that some lives Implementing such changes matter less is the root of all that is wrong with the world." - Paul Farmer

will take vision, political will and financing. Each must be bold, robust and unequivocal. COVID-19 economic recovery packages need to be equi-

table, transdisciplinary and green-moving forward, the only sustainable economies will be environmental economies, where ecological and social outcomes carry as much weight as GDP growth in policy design, implementation and practice. Already, the reduction in carbon dioxide emissions achieved to date are sliding in the wrong direction and in danger of being nullified altogether by pandemic recovery packages emphasizing short-term economic gains over long-term planetary stability.[1] They need not be mutually exclusive.

Over-exploitation of the Earth's resources, where economic activity outstrips environmental thresholds, usually at the expense of the most vulnerable, is no longer viable. Denying low-and middleincome countries a voice in setting the global development agenda, is no longer viable. Resigning ourselves to a reality where half the world's population does not have access to essential health services was never acceptable and now more than ever, more starkly than ever, is not viable.[12]

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To reverse course, the lessons of the COVID-19 pandemic must be heeded. The pandemic showed that scientific collaboration, global coordination, streamlined regulatory processes like seamless trials and intersectoral cooperation are possible. Unfortunately, as the pandemic worsened, these positive actions were eclipsed by nationalist (and in some cases neo-colonialist) policies, finger pointing, mis- and disinformation by governments and the media, mixed messaging by health authorities and fear mongering. Inequities were laid bare, within and among countries, and the woeful inadequacies of health systems exposed. It is no coincidence that health is the single indicator that cuts across all five main actions of the Paris Agreement; still, just 0.5% of overall funding from multilateral climate finance is allocated specifically to protect or improve human health.[13]

Stronger, better-funded regional and international health authorities are essential. Bodies like WHO, PAHO and the nascent European Health Union are best equipped to tackle this challenge, but face legitimacy issues related to confusing messaging,[14] political posturing by rich, powerful countries that affects financing and buy-in by others, marginalization of lesser developed countries in agenda setting and the intrinsic problem of lack of enforcement. From the Alma Ata Declaration in 1978 to the Paris Agreement in 2015 and most recently the COVAX initiative, history has shown that simply coaxing member nations into compliance to improve population and planetary health does not work.[15] The current pandemic made this abundantly clear, with WHO Director-General Tedros Ghebreyesus calling vaccine nationalism and the lack of political will to safeguard the health of all nations "a catastrophic moral failure."[16]

Funding for capacity-building, bolstering health systems' infrastructure, emergency preparedness and technology/knowledge transfer to combat climate change and the disease burden it creates is an urgent priority in Africa, Asia, Latin America and the Caribbean. Under-representation of these regions in policy and decision-making on a global scale is not acceptable; empowering regional bodies such as the African Union and the Association of Southeast Asian Nations, while harnessing indigenous and local knowledge for improved stewardship are first steps. For companies like Pfizer-BioNTech, there is zero motivation to change the model and 22 reasons to maintain the status quo: in 2021, they posted \$22 billion in net profits, twice that of the previous year Reviving the possibility of waiving intellectual property patents to benefit health in the Global South must be on the table. Powerful pharmaceutical companies, and their host countries, cannot be permitted to dictate policy on issues of planetary and population health. At the close of 2021, only 14%

of people in low-income countries had received one COVID vaccine dose—in fact, more boosters had been administered in high-income countries by that time than total doses in all low-income countries combined. What's worse, vaccine giants—Pfizer—BioNTech and Moderna—were profiting at a rate of \$65,000 per minute. And this after receiving more than \$950 million (Moderna) and \$800 million (Pfizer-BioNTech) in public funds to develop their vaccines.[17,18] For companies like Pfizer—BioNTech, there is zero motivation to change the model and 22 reasons to maintain the status quo: in 2021, they posted \$22 billion in net profits, twice that of the previous year.[19]

Finally, planetary and population health will continue to deteriorate if all policy, multilateral agreements and collective action is not based on, and their outcomes measured by, fundamental concepts of equity. In short, "the idea that some lives matter less is the root of all that is wrong with the world" and we must condemn all policies that are predicated on this premise. This principle, championed by Dr Paul Farmer throughout his unorthodox life and career serving in some of the most medically underserved and impoverished contexts on the planet, must be the road map forward.

Farmer, the visionary doctor, healer and educator known for his unflagging commitment to underserved communities in Boston, Haiti, Rwanda and elsewhere, died suddenly in February 2022. Fighting for the planet's survival from a place of equity, in partnership with all stakeholders, regardless of lot or latitude, was his legacy. It's our responsibility to honor it.

## The Editors

## **NOTES & REFERENCES**

- Romanello M, McGushin A, Di Napoli C, Drummond P, Hughes N, Jamart L, et al. The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future. Lancet. 2021 Oct 30;398(10311):1619–62. https://doi.org/10.1016/S0140-6736(21)01787-6
- Sheldrick M. COP 26: A failure for the planet and the world's poor [Internet].
   New Jersey: Forbes; 2021 Nov 15 [cited 2022 Apr 21]; [about 3 screens.].
   Available at: https://www.forbes.com/sites/globalcitizen/2021/11/15/cop26-a-failure-for-the-planet-and-the-worlds-poor/
- Guterres A. Scretary-General's statement on the conclusion of the UN Climate Change Conference COP26. United Nations Secretary-General [Internet]. New York: United Nations; 2021 Nov 13 [cited 2022 Apr 21]; [about 3 screens]. Available at: www.un.org/sg/en/content/sg/statement/2021-11-13/secretary-gene rals-statement-the-conclusion-of-the-un-climate-change-conference-cop26
- IPCC Working Group. Climate Change: A threat to human wellbeing and health
  of the planet [Internet]; Geneva: The Intergovernmental Pannel on Climate
  Change (IPCC); 2022 Feb [cited 2022 Apr 17]; [about 6 screens]. Available at:
  https://www.ipcc.ch/2022/02/28/pr-wgii-ar6/
- Climate risks laid bare. Lancet Planet Health. 2022 Apr;6(4):e292. https://doi.org/10.1016/S2542-5196(22)00075-4
- World Health Organization [Internet]. Geneva: World Health Organization; c2022. News room. Fact Sheet. Details. Drinking water; 2022 Mar 21 [cited 2022 Apr 17]; [about 5 screens]. Available at: https://www.who.int/news-room/ fact-sheets/detail/drinking-water
- Center for Disease Control and Prevention (CDC) [Internet]. Atlanta: Center for Disease Control and Prevention (CDC); c2022. Healthy Water Home. Global

- Water, Sanitation and Hygiene (WASH) Fast Facts; [cited 2022 April 17]; [about 4 screens]. Available at: https://www.cdc.gov/healthywater/global/wash\_statistics.html
- Roser M, Ritchie H. Hunger and Undernourishment [Internet]. Oxford: OurWorldinData.org, Global Change Data Lab; [cited 2022 Apr 17]; [about 17 screens]. Available at: https://ourworldindata.org/hunger-and-undernourishment
- Hooijer A, Vernimmen R. Global LiDAR land elevation data reveal greatest sealevel rise vulnerability in the tropics. Nat Commun. 2021 Jun 29;12(1):3592. https://doi.org/10.1038/s41467-021-23810-9
- Brand-Correa L, Brook A, Büchs M, Meier P, Naik Y, O'Neil DW, et al. Economics for people and planet-moving beyond the neoclassical paradigm. Lancet Planet Health. 2022 Apr 1;6(4):E371–E9. https://doi.org/10.1016/S2542-5196(22)00063-8
- Lee BY. Covid-19 Coronavirus won't be last or worst pandemic, how to stop panic-neglect cycle [Internet]. New Jersey: Forbes; 2020 Jul 4 [cited 2022 Apr 21]. Available at: https://www.forbes.com/sites/brucelee/2020/07/04/covid -19-coronavirus-wont-be-last-or-worst-pandemic-how-to-stop-panic-neglect cycle/
- 12. World Health Organization [Internet]. Geneva: World Health Organization; c2022. News. World Bank and WHO: Half the world lacks access to essential health services, 100 million still pushed into extreme poverty because of health expenses; 2017 Dec 13 [cited 2022Apr 21]; [about 3 screens]. Available at: https://www.who.int/news/item/13-12-2017-world-bank-and-who-half-the-world-lacks-access-to-essential-health-services-100-million-still-pushed-into-extreme-poverty-because-of-health-expenses

- Perez Catalá A, Wyns A. The Global Stocktake: a health check for the Paris Agreement. Lancet Planet Health. 2022 Apr 1;6(4):297–8. https://doi.org/10.1016/S2542-5196(22)00066-3
- Lewis D. Why the WHO took two years to say COVID is airborne. Nature. 2022
   Apr 6 [cited 2022 April 17];604(7904):26–31. https://doi.org/10.1038/d41586-022-00925-7
- Taylor A. Why Covax, the best hope for vaccinating the world, was doomed to fall short. Washington Post [Internet]. 2022 Mar 22; [cited 2022 April 21]:Coronavirus; [about 10 screens]. Available at: https://www.washingtonpost .com/world/2022/03/22/covax-problems-coronavirus-vaccines-next-pande mic/
- Reuters [Internet]. London: Reuters; c2022. Business. Healthcare & Pharmaceuticals Coronavirus. Vaccine nationalism puts world on brink of 'catastrophic moral failure': WHO chief; 2021 Jan 18 [cited 2022 Apr 21]; [about 2 screens]. Available at: https://www.reuters.com/business/healthcare-phar
- maceuticals/vaccine-nationalism-puts-world-brink-catastrophic-moral-failure -who-chief-2021-01-18/
- 17. Pfizer, BioNTech and Moderna making US\$1,000 profit every second while world's poorest countries remain largely unvaccinated. Nairobi: OXFAM; 2021 Nov 16 [cited 2022 Apr 26]; [about 2 screens]. Available at: https://www.oxfam.org.nz/news-media/pfizer-biontech-and-moderna-making-us1000-profit-every-second/
- McCarthy N. Which Companies Received the Most COVID-19 Vaccine R&D Funding? (Infographic) [Internet]. New Jersey: Forbes; 2021 May 6 [cited 2022 Apr 26]. Available at: https://www.forbes.com/sites/niallmccar thy/2021/05/06/which-companies-received-the-most-covid-19-vaccine-rd-fun ding-infographic/?sh=544ccb404333
- Time is running out for COVID vaccine patent waivers. Nature. 2022 Mar 29 [cited 2022 Apr 21];603(7903):764. https://doi.org/10.1038/d41586-022 -00878-x