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Article:
Abbasi, K., Ali, P., Barbour, V. et al. (2023) Time to treat the climate and nature crisis as one indivisible global health emergency. Climate and Development, 18 (6). pp. 551-554. ISSN: 1756-5529

https://doi.org/10.1080/17565529.2023.2276492

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Climate and Development

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/tcld20

Time to treat the climate and nature crisis as one indivisible global health emergency

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To cite this article: Kamran Abbasi, Parveen Ali, Virginia Barbour, Thomas Benfield, Kirsten Bibbins-Domingo, Gregory E. Erhabor, Stephen Hancocks, Richard Horton, Laurie Laybourn-Langton, Robert Mash, Peush Sahni, Wadeia Mohammad Sharief, Paul Yonga & Chris Zielinski (26 Oct 2023): Time to treat the climate and nature crisis as one indivisible global health emergency, Climate and Development, DOI: 10.1080/17565529.2023.2276492

To link to this article: https://doi.org/10.1080/17565529.2023.2276492

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Published online: 26 Oct 2023.

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CLIMATE AND DEVELOPMENT
https://doi.org/10.1080/17565529.2023.2276492

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EDITORIAL

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Time to treat the climate and nature crisis as one indivisible global health emergency

Over 200 health journals call on the United Nations, political leaders, and health professionals to recognize that climate change and biodiversity loss are one indivisible crisis and must be tackled together to preserve health and avoid catastrophe. This overall environmental crisis is now so severe as to be a global health emergency.

The world is currently responding to the climate crisis and the nature crisis as if they were separate challenges. This is a dangerous mistake. The 28th Conference of the Parties (COP) on climate change is about to be held in Dubai while the 16th COP on biodiversity is due to be held in Turkey in 2024. The research communities that provide the evidence for the two COPs are unfortunately largely separate, but they were brought together for a workshop in 2020 when they concluded that: 'Only by considering climate and biodiversity as parts of the same complex problem … can solutions be developed that avoid maladaptation and maximize the beneficial outcomes' (Otto-Portner et al., 2021).

As the health world has recognized with the development of the concept of planetary health, the natural world is made up of one overall interdependent system. Damage to one subsystem can create feedback that damages another—for example, drought, wildfires, floods and the other effects of rising global temperatures destroy plant life, and lead to soil erosion and so inhibit carbon storage, which means more global warming (Ripple et al., 2023). Climate change is set to overtake deforestation and other land-use change as the primary driver of nature loss (European Academies Science Advisory Council, 2021).

Nature has a remarkable power to restore. For example, deforested land can revert to forest through natural regeneration, and marine phytoplankton, which act as natural carbon stores, turn over one billion tonnes of photosynthesizing biomass every eight days (Falkowski, 2012). Indigenous land and sea management has a particularly important role to play in regeneration and continuing care (Dawson et al., 2021).

Restoring one subsystem can help another—for example, replenishing soil could help remove greenhouse gases from the atmosphere on a vast scale (Bossio et al., 2020). But actions that may benefit one subsystem can harm another—for example, planting forests with one type of tree can remove carbon dioxide from the air but can damage the biodiversity that is fundamental to healthy ecosystems (Levia et al., 2020).

The impacts on health

Human health is damaged directly by both the climate crisis, as the journals have described in previous editorials (Atwoli et al., 2021, 2022), and by the nature crisis (WHO et al., 2015). This indivisible planetary crisis will have major effects on health as a result of the disruption of social and economic systems—shortages of land, shelter, food, and water, exacerbating poverty, which in turn will lead to mass migration and conflict. Rising temperatures, extreme weather events, air pollution, and the spread of infectious diseases are some of the major health threats exacerbated by climate change (Magnano San Lio et al., 2023). 'Without nature, we have nothing,' was UN Secretary-General António Guterres's blunt summary at the biodiversity COP in Montreal last year (Jelskov, 2022). Even if we could keep global warming below an increase of 1.5°C over pre-industrial levels, we could still cause catastrophic harm to health by destroying nature.

Access to clean water is fundamental to human health, and yet pollution has damaged water quality, causing a rise in water-borne diseases (World Health Organization, 2022). Contamination of water on land can also have far-reaching effects on distant ecosystems when that water runs off into the ocean (Comeros-Raynal et al., 2021). Good nutrition is underpinned by diversity in the variety of foods, but there has been a striking loss of genetic diversity in the food system. Globally, about a fifth of people rely on wild species for food and their livelihoods (IPBES, 2022). Declines in wildlife are a major challenge for these populations, particularly in low- and middle-income countries. Fish provide more than half of dietary protein in many African, South Asian and small island nations, but ocean acidification has reduced the quality and quantity of seafood (Falkenberg et al., 2020).

Changes in land-use have forced tens of thousands of species into closer contact, increasing the exchange of pathogens and the emergence of new diseases and pandemics (Dunne, 2022). People losing contact with the natural environment and the declining biodiversity have both been linked to increases in noncommunicable, autoimmune, and inflammatory diseases and metabolic, allergic and neuropsychiatric disorders (Altveş et al., 2020; WHO et al., 2015). For Indigenous people, caring for and connecting with nature is especially important for their health (Schultz & Cairney, 2017). Nature has also been an important source of medicines, and thus reduced diversity also constrains the discovery of new medicines.

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Communities are healthier if they have access to high-quality green spaces that help filter air pollution, reduce air and ground temperatures, and provide opportunities for physical activity (Macguire et al., 2022). Connection with nature reduces stress, loneliness and depression while promoting social interaction (Wong et al., 2018). These benefits are threatened by the continuing rise in urbanization (Simkin et al., 2022).

Finally, the health impacts of climate change and biodiversity loss will be experienced unequally between and within countries, with the most vulnerable communities often bearing the highest burden (WHO et al., 2015). Linked to this, inequality is also arguably fuelling these environmental crises. Environmental challenges and social/health inequities are challenges that share drivers and there are potential co-benefits of addressing them (WHO et al., 2015).

A global health emergency

In December 2022 the biodiversity COP agreed on the effective conservation and management of at least 30% percent of the world's land, coastal areas, and oceans by 2030 (Secretariat of the Convention on Biological Diversity, 2022). Industrialized countries agreed to mobilize $30 billion per year to support developing nations to do so (Secretariat of the Convention on Biological Diversity, 2022). These agreements echo promises made at climate COPs.

Yet many commitments made at COPs have not been met. This has allowed ecosystems to be pushed further to the brink, greatly increasing the risk of arriving at 'tipping points', abrupt breakdowns in the functioning of nature (Armstrong McKay et al., 2022; Ripple et al., 2023). If these events were to occur, the impacts on health would be globally catastrophic.

This risk, combined with the severe impacts on health already occurring, means that the World Health Organization should declare the indivisible climate and nature crisis as a global health emergency. The three pre-conditions for WHO to declare a situation to be a Public Health Emergency of International Concern are that it: 1) is serious, sudden, unusual or unexpected; 2) carries implications for public health beyond the affected State's national border; and 3) may require immediate international action (World Health Organization, 2005). Climate change would appear to fulfil all of those conditions. While the accelerating climate change and loss of biodiversity are not sudden or unexpected, they are certainly serious and unusual. Hence we call for WHO to make this declaration before or at the Seventy-seventh World Health Assembly in May 2024.

Tackling this emergency requires the COP processes to be harmonized. As a first step, the respective conventions must push for better integration of national climate plans with biodiversity equivalents (European Academies Science Advisory Council, 2021). As the 2020 workshop that brought climate and nature scientists together concluded, 'Critical leverage points include exploring alternative visions of good quality of life, rethinking consumption and waste, shifting values related to the human-nature relationship, reducing inequalities, and promoting education and learning' (Otto-Portner et al., 2021). All of these would benefit health.

Health professionals must be powerful advocates for both restoring biodiversity and tackling climate change for the good of health. Political leaders must recognize both the severe threats to health from the planetary crisis as well as the benefits that can flow to health from tackling the crisis (Australian Government Department of Health and Aged Care). But first, we must recognize this crisis for what it is: a global health emergency.

This Comment is being published simultaneously in multiple journals. For the full-list of journals see: https://www.bmj.com/content/full-list-authors-and-signatories-climate-nature-emergency-editorial-october-2023

Acknowledgements

VB is an employee of the Medical Journal of Australia and an Unpaid Committee member of Wildlife Queensland. TB receives unrestricted grants to his institution from GSK, Novo Nordisk Foundation, Simonsen Foundation, Lundbeck Foundation, Kai Foundation, Erik and Susanna Olesen's Charitable Fund, Pfizer, MSD, and Gilead Sciences; is principal investigator for clinical trials funded by Pfizer, Boehringer Ingelheim, Gilead Sciences, MSD, Roche, Novartis, and Kancera AB; is an advisory board member for GSK, Pfizer, Gilead Sciences, MSD, Janssen, and Astra Zeneca; is a board member of Pentabase; reports consulting fees from GSK and Pfizer; reports honoraria for lectures from GSK, Pfizer, Gilead Sciences, Boehringer Ingelheim, AbbVie, and Astra Zeneca; and reports donation of trial medication (baricitinib) from Eli Lilly all unrelated to the topic of this Comment. LL-L is a member of the advisory group to the UK Climate Change Committee. RM reports a TEAM grant to his institution Stellenbosch University from VLIR (Belgium) to investigate primary health care and climate change in Africa. SH reports honoraria for hosting webinars from Procter & Gamble Oral-B unrelated to the topic of this Comment. PY reports honoraria for lectures from bioMérieux and Pfizer; participation in a Data Safety Monitoring Board for US National Heart, Lung, and Blood Institute; has received COVID-19 and influenza test kits from Atea Pharmaceuticals for a phase III clinical trial that I serve as a principal investigator all; is a member the Executive Committee of the antimicrobial stewardship study group for the European Society of Clinical Microbiology and Infectious Diseases all of which are unrelated to the topic of this Comment; and is Editor-in-Chief of the East African Medical Journal, which is the official medical journal of the Kenya Medical Association.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

Altveş, S., Yildiz, H. K., & Vural, H. C. (2020). Interaction of the microbiota with the human body in health and diseases. *Bioscience of Microbiota, Food and Health*, *39*(2), 23–32. https://doi.org/10.12938/bmfh.19-023

Armstrong McKay, D. I., Staal, A., Abrams, J. F., Winkelmann, R., Sakschewski, B., Loriani, S., Fetzer, I., Cornell, S. E., Rockström, J., & Lenton, T. M. (2022). Exceeding 1.5°C global warming could trigger multiple climate tipping points. *Science*, *377*(6611), eabn7950. https://doi.org/10.1126/science.abn7950

Atwoli, L., Baqui, A. H., Benfield, T., Bosurgi, R., Godlee, F., Hancocks, S., et al. (2021). Call for emergency action to limit global temperature increases, restore biodiversity, and protect health. *BMJ*, *374*, n1734. https://doi.org/10.1136/bmj.n1734

Atwoli, L., Erhabor, G. E., Gbakima, A. A., Haileamlak, A., Ntumba, J.-M. K., Kigera, J., et al. (2022). COP27 climate change conference: urgent action needed for Africa and the world. *BMJ*, *379*, o2459. https://doi.org/10.1136/bmj.o2459

Australian Government Department of Health and Aged Care. (2023 Jul 26). Consultation on Australia's first National Health and Climate Strategy. Australian Government Department of Health and Aged Care; Retrieved 1 October, 2023, from https://www.health.gov.au/news/consultation-on-australias-first-national-health-and-climate-strategy.

Bossio, D. A., Cook-Patton, S. C., Ellis, P. W., Fargione, J., Sanderman, J., Smith, P., et al. (2020). The role of soil carbon in natural climate solutions. *Nature Sustainability*, *3*(5), 391–398. https://doi.org/10.1038/s41893-020-0491-z

Comeros-Raynal, M. T., Brodie, J., Bainbridge, Z., Choat, J. H., Curtis, M., Lewis, S., Stevens, T., Shuler, C. K., Sudek, M., & Hoey, A. S. (2021). Catchment to sea connection: impacts of terrestrial run-off on benthic ecosystems in American Samoa. *Marine Pollution Bulletin*, *169*, 112530. https://doi.org/10.1016/j.marpolbul.2021.112530

Dawson, N. M., Coolsaet, B., Sterling, E. J., Loveridge, R., Gross-Camp, N. D., Wongbusarakum, S., Sangha, K. K., Scherl, L. M., Phan, H. P., Zafra-Calvo, N., Lavey, W. G., Byakagaba, P., Idrobo, C. J., Chenet, A., Bennett, N. J., Mansourian, S., & Rosado-May, F. J. (2021). The role of Indigenous peoples and local communities in effective and equitable conservation. *Ecology and Society*, *26*(3), 19. https://doi.org/10.5751/ES-12625-260319

Dunne, D. (2022). Climate change "already" raising risk of virus spread between mammals. Retrieved 1 October, 2023, from https://www.carbonbrief.org/climate-change-already-raising-risk-of-virus-spread-between-mammals/.

European Academies Science Advisory Council. (2021). Key messages from European Science Academies for UNFCCC COP26 and CBD COP15. Retrieved 1 October, 2023, from https://easac.eu/publications/details/key-messages-from-european-science-academies-for-unfccc-cop26-and-cbd-cop15.

Falkenberg, L. J., Bellerby, R. G. J., Connell, S. D., Fleming, L. E., Maycock, B., Russell, B. D., Sullivan, F. J., & Dupont, S. (2020). Ocean acidification and human health. *International Journal of Environmental Research and Public Health*, *17*(12), 4563. https://doi.org/10.3390/ijerph17124563

Falkowski, P. (2012). Ocean science: the power of plankton. *Nature*, *483* (7387), S17–S20. https://doi.org/10.1038/483S17a

IPBES. (2022). Assessment report on the sustainable use of wild species. https://www.ipbes.net/sustainable-use-assessment.

Jelskov, U. (2022). "Without nature, we have nothing": UN chief sounds alarm at key UN biodiversity event. *UN News*. Retrieved 1 October, 2023, from https://news.un.org/en/story/2022/12/1131422.

Levia, D. F., Creed, I. F., Hannah, D. M., Nanko, K., Boyer, E. W., Carlyle-Moses, D. E., van de Giesen, N., Grasso, D., Guswa, A. J., Hudson, J. E., Hudson, S. A., Iida, S., Jackson, R. B., Katul, G. G., Kumagai, T., Llorens, P., Ribeiro, F. L., Pataki, D. E., Peters, C. A., … Bruen, M. (2020). Homogenization of the terrestrial water cycle. *Nature Geoscience*, *13* (10), 656–658. https://doi.org/10.1038/s41561-020-0641-y

Macguire, F., Mulcahy, E., & Rossington, B. (2022). The Lancet Countdown on health and climate change - policy brief for the UK. Retrieved 1 October, 2023, from https://s41874.pcdn.co/wp-content/uploads/Lancet-Countdown-2022-UK-Policy-Brief_EN.pdf.

Magnano San Lio, R., Favara, G., Maugeri, A., Barchitta, M., & Agodi, A. (2023). How antimicrobial resistance is linked to climate change: an overview of two intertwined global challenges. *International Journal of Environmental Research and Public Health*, *20*(3), 1681. https://doi.org/10.3390/ijerph20031681

Otto-Portner, H., Scholes, B., Agard, J., Archer, E., Arneth, A., Bai, X., et al. (2021). Scientific outcome of the IPBES-IPCC co-sponsored workshop on biodiversity and climate change. https://doi.org/10.5281/zenodo.4659159.

Ripple, W. J., Wolf, C., Lenton, T. M., Gregg, J. W., Natali, S. M., Duffy, P. B., Rockström, J., & Schellnhuber, H. J. (2023). Many risky feedback loops amplify the need for climate action. *One Earth*, *6*(2), 86–91. https://doi.org/10.1016/j.oneear.2023.01.004

Schultz, R., & Cairney, S. (2017). Caring for country and the health of Aboriginal and Torres Strait Islander Australians. *Medical Journal of Australia*, *207*(1), 8–10. https://doi.org/10.5694/mja16.00687

Secretariat of the Convention on Biological Diversity. (2022). COP15: nations adopt four goals, 23 targets for 2030 in landmark UN biodiversity agreement. Convention on Biological Diversity. Retrieved 1 October, 2023, from https://www.cbd.int/article/cop15-cbd-press-release-final-19dec2022.

Simkin, R. D., Seto, K. C., McDonald, R. I., & Jetz, W. (2022). Biodiversity impacts and conservation implications of urban land expansion projected to 2050. *Proceedings of the National Academy of Sciences*, *119* (12), e2117297119. https://doi.org/10.1073/pnas.2117297119

WHO, UNEP, Convention on Biological Diversity. (2015). Connecting global priorities: biodiversity and human health: a state of knowledge review. Retrieved 1 October, 2023, from https://www.cbd.int/health/SOK-biodiversity-en.pdf.

Wong, F. Y., Yang, L., Yuen, J. W. M., Chang, K. K. P., & Wong, F. K. Y. (2018). Assessing quality of life using WHOQOL-BREF: a cross-sectional study on the association between quality of life and neighborhood environmental satisfaction, and the mediating effect of health-related behaviors. *BMC Public Health*, *18*(1), 1113. https://doi.org/10.1186/s12889-018-5942-3

World Health Organization. (2005). Who guidance for the use of annex 2 of the international health regulations. World Health Organization; Retrieved 1 October, 2023, from https://www.who.int/publications/m/item/who-guidance-for-the-use-of-annex-2-of-the-international-health-regulations-(2005).

World Health Organization. (2022). State of the world's drinking water: An urgent call to action to accelerate progress on ensuring safe drinking water for all. World Health Organization. Retrieved 1 October, 2023, from https://www.who.int/publications/i/item/9789240060807.

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