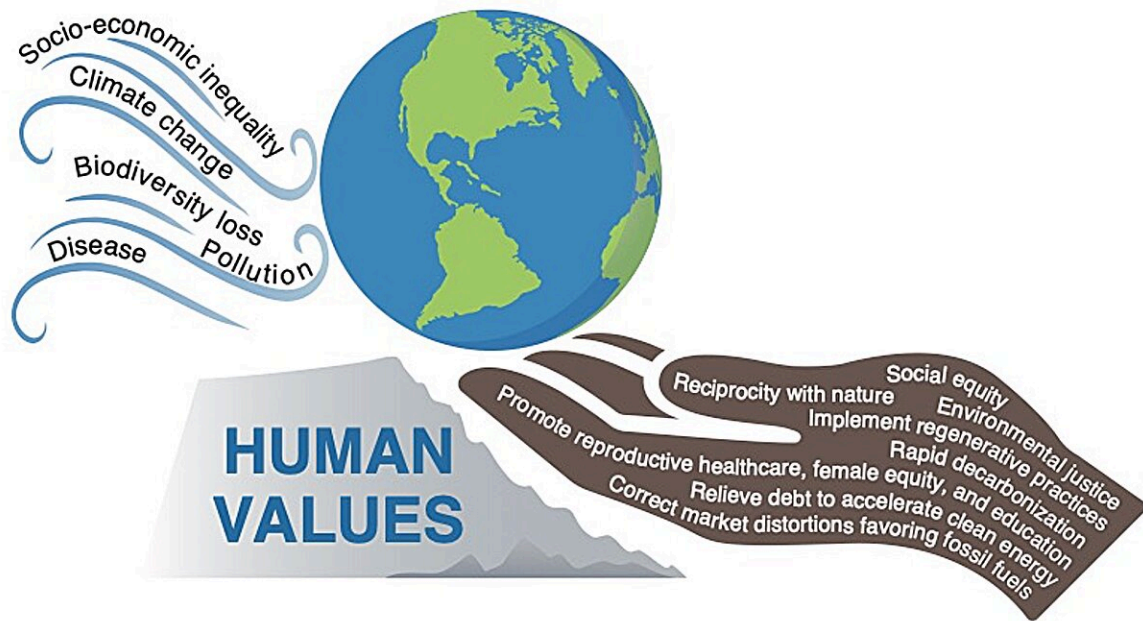


Scientists' urgent call: End destruction and forge a just, sustainable future

April 2 2024, by Marcie Grabowski



Unless human values shift dramatically and soon, the resulting damage to the natural world will likely be catastrophic, with long-lasting consequences for species and ecosystems, and devastating upheavals for humanity. A systemic change in human values is needed that focuses on Earth-centered governance, and entails a transition in collective values, behaviors, and institutional practices to prioritize long-term ecological health and social well-being over immediate gains. Credit: *PNAS Nexus* (2024). DOI: 10.1093/pnasnexus/pgae106

An international team of scientists has [published](#) a study in *PNAS Nexus*, emphasizing the urgent need to align political will, economic resources, and societal values to ensure a more sustainable and equitable world. Led by University of Hawai'i at Mānoa researchers, the 18 authors combine their expertise in Earth and ocean sciences, politics, law, public health, renewable energy, geography, communications, and ethnic studies to assess causes, impacts, and solutions to a multitude of worldwide crises.

"Climate change, ecological destruction, disease, pollution, and socio-economic inequality are pressing global challenges facing humanity in the 21st century," said Chip Fletcher, lead author and interim Dean of the UH Mānoa School of Ocean and Earth Science and Technology.

"These crises are not isolated problems but are interwoven, exacerbate each other, and create amplifying feedbacks that pose a grave threat to both the environment and human well-being."

"Environmental and human health are inextricably linked," said David Karl, co-author and professor of oceanography at UH Mānoa. "Urgent and comprehensive action is called for, including rapid decarbonization, fostering a more harmonious relationship with nature, and equitable human development."

Global cultural shift

The authors argue that centuries of imperialism, extractive capitalism, and [population growth](#) have pushed Earth's ecosystems beyond their limits, and created a broadening pattern of social inequality. The review summarizes the grave threats facing the planet but rejects a "doom and gloom" philosophy. Instead, the authors argue, the threats should motivate swift and substantial actions.

According to the authors, a global economic model focused on wealth accumulation and profit, rather than true sustainability, is a major impediment to decarbonization, conserving natural resources, and ensuring social equity. Therefore, the authors argue, governments should enforce radical, immediate cuts in fossil fuel use, eliminate environmentally harmful subsidies, and restrict trade that generates pollution or unsustainable consumption.

Historical Context



Modern Outcomes



Just & Sustainable Future

- 1) Rapid and legitimate decarbonization
- 2) Correct market distortions favoring fossil fuels
- 3) Avoid net zero as an excuse to continue GHG emissions
- 4) Proper monitoring, verification, and reporting of carbon offset contracts
- 5) Revise the basis for decision-making under the UNFCCC
 - a. Qualified majority voting
 - b. Penalties for non-compliance
- 6) Decouple economic activity from net resource depletion
- 7) Shift Earth-centered governance from an aspirational political issue to a foundational principle through constitutional reforms with policy implications
- 8) Sustainable/regenerative practices in all areas of natural resource economics
- 9) Regenerative agriculture
- 10) Eliminate environmentally harmful subsidies
- 11) Restrict trade that promotes pollution and unsustainable consumption
- 12) Accelerate human development in all SDG sectors
- 13) Promote gender justice by supporting women's and girls' education and rights, which reduces fertility rates and raises the standard of living
- 14) For low- and middle-income nations:
 - a. Relieve debt, provide low-cost loans, finance loss and damage, fund clean energy acceleration, arrest the dangerous loss of biodiversity, and restore natural ecosystems

A graphic summarizing the main argument of the review. The historical context of imperialism, population growth, and an extractive relationship with nature has led to a series of modern outcomes that put our planet at risk: disease, climate change, biodiversity loss, socio-economic inequality, and pollution. These risk the stability of human communities. Humanity may achieve a just and sustainable future through global investment in rapid decarbonization; correcting market distortions favoring fossil fuels; avoiding "net zero" as an excuse to continue GHG emissions; proper monitoring and validation of carbon offsets; revising the basis for decision-making under the United Nations Framework Convention on Climate Change; decoupling economic activity from net resource depletion; shifting to Earth-centered governance; employing sustainable/regenerative practices in all areas of natural resource economics; eliminating environmentally harmful subsidies; restricting trade that promotes pollution and unsustainable consumption; accelerating human development in all Sustainable Development Goals sectors; promoting reproductive health care, education, and equity for girls and women, and for low- and middle-income nations; relieving debt; providing low-cost loans; financing loss and damage; funding clean energy; arresting the dangerous loss of biodiversity; and restoring natural ecosystems. Credit: Fletcher et al

The most vulnerable human populations, those who bear the least responsibility, disproportionately bear the consequences of these interwoven global crises. The broadening pattern of this inequity breeds displacement, disease, disillusionment, and dissatisfaction that ultimately erode social cohesion.

A grossly unequal distribution of wealth has coupled with the increasing consumption patterns of a rising global middle class to amplify ecological destruction. Studies show that the poorest half of the global population owns barely 2% of total global wealth, while the richest 10% owns 76% of all wealth. The poorest 50% of the global population contribute just 10% of emissions, while the richest 10% emit more than

50% total carbon emissions. Climate change, [economic inequality](#), and rising consumption levels intertwine to amplify ecological destruction.

Marine and terrestrial biomes face critical tipping points, while escalating challenges to food and water access foreshadow a bleak outlook for global security. The consequences of these actions are disproportionately borne by vulnerable populations, further entrenching global inequities.

"To avoid these consequences, we advocate a global cultural shift that elevates kinship with nature and communal well-being, underpinned by the recognition of Earth's finite resources and the interconnectedness of its inhabitants," said Krista Hiser, professor of English at Kapiolani Community College at the University of Hawai'i.

Kinship with nature

The authors welcome signs that humanity is interested in changing its value system to prioritize justice and reciprocity within human societies and between humans and natural landscapes and ecosystems, which they see as the best route to true sustainability.

According to Phoebe Barnard, affiliate professor at the University of Washington, "The imperative is clear: To navigate away from this precipice, we must collectively harness political will, [economic resources](#), and societal values to steer toward a future where human progress does not come at the cost of ecological integrity and social equity."

The authors call for a global cultural shift in values, aided by education, robust policy, economic incentives, cross-sector partnerships, community empowerment, corporate accountability, technological innovation, leadership, and cultural narratives delivered through art and media. They conclude that humanity must stop treating these issues as

isolated challenges and establish a systemic response based on kinship with nature that recognizes Earth as our lifeboat in the cosmic sea of space.

More information: Charles Fletcher et al, Earth at risk: An urgent call to end the age of destruction and forge a just and sustainable future, *PNAS Nexus* (2024). [DOI: 10.1093/pnasnexus/pgae106](https://doi.org/10.1093/pnasnexus/pgae106).
[academic.oup.com/pnasnexus/art ... /3/4/pgae106/7638480](https://academic.oup.com/pnasnexus/article/3/4/pgae106/7638480)

Provided by University of Hawaii at Manoa

Citation: Scientists' urgent call: End destruction and forge a just, sustainable future (2024, April 2) retrieved 2 May 2024 from
<https://phys.org/news/2024-04-scientists-urgent-destruction-forge-sustainable.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.