# Environmental Action is a Responsibility for a Viable Planet

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Looking back on 2022, I reflect on the past and anticipate what future environmental health priorities may bring. . Reducing the collective production of ecological damage has manifested into a focus on reducing greenhouse gas (GHG) emissions and lowering global temperatures. Greenhouse gas emissions are only one area of concern. At least ten environmental catastrophes totaling more than three billion dollars each occurred in the previous year. Worldwide, they include four floods, three droughts, two hurricanes, and a destructive storm named Eunice in Europe1. These events are disturbing as they suggest a new normal for the future. To investigate what climate impacts may occur in the future, scientists have modeled 1200 scenarios of planetary change to the year 2100. Their findings suggest that things may get worse in coming decades with uncertainty about whether human actions can bring about enough change for ecosystem viability by 21002.

Protecting the natural and built environments is crucial to human survival but is often viewed as the responsibility of expert environmental health specialists. A compartmentalization of the environment into distinct parts (natural, human, physical, or biotic and abiotic) quickly falls apart when larger interactive frameworks are examined. Such is the case with multiple components of environmental change through climate change. Different scholars discuss the problem from different perspectives, as a challenge from population overshoot, fossil fuel emissions, planetary heating, or human industrial production and pollution. These perspectives of environmental degradation center on the shift to a human-driven environment causing unprecedented abrupt consequences3.

**Species Extinction Due to Habitat Destruction**

Biodiversity loss is accelerating so that even humans may soon find themselves eliminated in a sixth mass extinction of biological life on earth4. While some policymakers ignore or disregard this growing loss, environmental scientists and authorities responsible for preserving human security and health see a rapidly growing escalation of self-reinforcing processes degrading air, water, and essential habitat for life.

Knowledgeable climate experts, following the evidence of rapid, irreversible climate changes, have emphasized the overlapping life-threatening conditions from the weather (heat and storms), disease (increasing impacts from existing and new diseases), and famine (lack of food and biodiversity). Scientists like Peter Carter from the Climate Emergency Institute5, David King, head of the Climate Crisis Advisory Group6, and David Pratt, research director of the Breakthrough National Centre for Climate Restoration7, have laid out the increasingly critical situation for human survival if everyone on the planet continues to live without immediate concern and action.

While scientists and their projections of possible consequences are often ignored, some experts point to the limitations of this continuing disregard. The Conference of the Parties of the Framework Convention on Climate Change in Egypt in 2022 shifted its focus to addressing loss and damage, recognizing that action must support adaptation in vulnerable countries8. The previous political views that global warming can be limited to 1.5 degrees Celsius have now been questioned. Scientists note that irreversible feedback loops, processes destroying healthy biodiversity, require immediate and unprecedented environmental action for adaptation since the planet is likely to warm to 2 degrees Celsius or more in the coming decades. While mitigation and adaptation overlap in many respects, researchers often invest in better understanding ongoing processes which may allow adaptations to future conditions9. Besides research to better understand critical climatic conditions vital to human adaptation, I suggest three approaches for health professionals striving to address environmental threats from climate change.

**Earth-restoring Levels of Action**

First, political/economic solutions can have an impact on health. For example, the US Inflation Reduction Act (IRA), which allocates billions of dollars to climate-related projects, shows how significant investments which incentivize public action on climate change can positively impact health. Although large projects may not reverse ongoing processes, they can relieve growing environmental damage. Air quality improvements from the IRA are projected to "…reduce emissions of conventional air pollutants such as particulate matter, averting as many as 3900 premature deaths, 100,000 asthma attacks, and 417,000 lost work days per year by 2030"10.

Second, an organizational approach where Health Care Organizations (HCO) assess and reduce GHG emissions and reach net zero across healthcare services can provide beneficial results. By establishing emission measures, identifying their sources, and setting net-zero goals for HCO organizations, emissions reductions from a vital sector of the US economy could be realized11.

Finally, at a more personal level, if everyone reassessed their use of energy, products from the land, and the consumption of products that could be traded or reused, there would be a significant impact on environmental damage and the climate. There are several organizations where personal commitment to ecological behavior change can show results. These organizations support a shift to less consumption, recognizing that decisions about energy and transportation, consumerism, and food production and utilization are vital to addressing climate conditions. Every person does make a difference. The United Nations has a campaign, Act Now, suggesting and encouraging individual action that can affect climate change12. As a part of this approach, everyone must commit to goals to restore and adapt to environmental realities.

**Personal Action Necessary**

As an environmental researcher, I have worked on projects to counter air and water pollution and restore the land for food production 13, 14, 15.

I am working on a project to remove plastic cigarette butt pollution from beaches and parks in Thailand, Japan, and California in the United States16. Each year, cigarette butts produce 845,000 tons of trash and contain compounds that are dangerous to wildlife. .

Cigarette butts are mistaken for food by fish, seabirds, and turtles and are frequently found in the stomachs of dead animals washed up on the beach. Even when the butts are floating free in the water, the chemicals trapped in the filters are also toxic to marine life.

Cigarette filters have little protective effect on smokers. The 12,000 plastic (cellulose acetate) fibers in each filter contribute to microplastic pollution, a persistent contaminant of land, air, and water17.

The multi-country international policy on cigarette butts brings awareness of plastic pollution at our immediate interface with nature. It demonstrates that we all can make a personal difference through our choice to stop buying and using both single-use and multi-use plastic products. This research provides knowledge for positive change in nature. It shows that each of us can make a difference because our actions with plastic pollution can significantly affect birds, marine life, and even microplastic pollution — which is a human contaminant. With enthusiasm for environmental changes through our everyday activities, we can contribute to restoring the natural world.

## Conclusion

I urge individuals who prize the health and well-being of our planet to take action and participate in movements like the cigarette butt project of which I am a part. We can restore the natural environment that is rapidly disappearing by realizing the individual sources of environmental decline and moving to change our actions at the personal levels where we can contribute most.

While environmental specialists have many ideas about climate change approaches and action, I believe the public should focus on what can be done on multiple levels to restore nature in our immediate communities. The fundamental challenge we face is in altering our behaviors to produce real change, not counting on political or organizational efforts — which sometimes deflect us from personal action. Our environment is our life in nature and is related to everything else. We can act personally to affect our immediate environment. The climate emergency calls us to play specific roles in securing a viable planet.

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