



WFPHA: World Federation of Public Health Associations

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THE FEDERATION'S PAGES

Climate change, human health, and unsustainable development

The term *sustainable development* has been misunderstood and misinterpreted, often parodied, and even derided. Today we face the consequences of our wilful dismissal. Climate change is upon us. Had we taken sustainable development more seriously, we might have done far more to create a healthy society and environment. But unbridled economic development, predicated on unfettered use of resources, ever expanding energy production, and consumption in the nineteenth and twentieth centuries, has damaged the world's ecological systems and human health.

The United Kingdom's industrial revolution fired economic development that paid scant regard to social and environmental harm. Ensuing environmental and social havoc spawned the public health movement. Great Victorian visionaries – Edwin Chadwick, Joseph Bazalgette, and John Snow – connected these conditions with the disease, pestilence, and social disruption. They launched radical societal and environmental reforms to help promote human health.

The World Commission on Environment and Development returned to the connection between economic environment and human health, asserting 'The resource gap between industrial and developing nations is widening, rule-making on global scale is dominated by industrial nations, and much of the earth's ecological capital has already been used in industrial development. The Commission views these inequalities as the crux of both the planet's environmental and development problems. The solution lies in economic growth that is equitable, and environmentally sustainable'.¹

In 1992, the UN Conference on Environment and Development produced Agenda 21,² a 40-chapter blueprint for sustainable development. 'Agenda 21 must address the primary health needs of the world's population, since they are integral to the achievement of the goals of sustainable development and primary environmental care'. In 1995, WHO re-launched 'Health For All' 'in response to accelerated global change and to ensure that individuals, countries and organisations are prepared to meet the challenges of the 21st Century'. Are we meeting these challenges today, as a climate change doomsday scenario – an outcome of unsustainable development – is upon us? We face severe threats from unsustainable development.

Climate Change

Greenhouse gases – carbon dioxide emitted from combustion of fossil fuel, and methane produced by agriculture and waste – warm the world's climate. The UN Millennium Ecosystem Assessment Conference in 2007³ reported that 40 per cent of the world's agricultural land is seriously degraded by poor farming practices, deforestation, and the effects of climate change. Attempts to combat climate change by replacing fossil fuels with biofuels take land from food crops, exacerbating the situation. Increased competition over depleted resources may lead to conflict.

Climate change causes 300 000 deaths annually, affecting 300 million people, according to a study by Global Humanitarian Forum,⁴ a think tank set up by former UN Secretary General Kofi Annan. The study projects that climate change – increasingly severe heat waves, floods, storms, and forest fires – will cause as many as 500 000 deaths a year by 2030 – the greatest humanitarian threat the world faces. If carbon emissions are not brought under control within 25 years:

- 310 million people will suffer health consequences related to temperature rise;
- 20 million more will fall into poverty; and
- 75 million more will be displaced.

Economic Development

The industrial revolution led inevitably to expansion of markets and use of resources. Populations living in industrial countries have experienced

rising living standards and abundant goods and food from around the world. Global poverty caused by inequitable economic development has impacted human health. The poorest 40 per cent of the world's population accounts for 5 per cent of global income. The richest 20 per cent accounts for three-quarters of world income.

UNICEF reports that 26 500–30 000 children die each day due to poverty. They 'die quietly in some of the poorest villages on earth, far removed from the scrutiny and the conscience of the world. Being meek and weak in life makes these dying multitudes even more invisible in death'.⁵ Of children in developing countries, 27–28 per cent are underweight or stunted. Two regions account for most of the deficit, South Asia and sub-Saharan Africa. If trends continue, we will miss the Millennium Development Goals target of halving the number of underweight children, largely because of slow progress in South Asia and sub-Saharan Africa.

Environmental Degradation

Pollution: Continuing industrialisation spreads harmful toxic residues that are absorbed, metabolised, and stored in the human body. The World Wildlife Fund estimated that 500 persistent organic pollutants (created since the chemical revolution in the 1920s) are present mostly in human body fat.⁶ Over 350 man-made contaminants have been found in human breast milk, including some 87 dioxin and dioxin-like compounds, and 190 volatile compounds. The developmental impacts of dioxins and polychlorinated biphenyls decrease physical stamina in jumping tests, eye–hand coordination (decreased ability to catch a ball), memory, and ability to draw a person – a non-verbal measure of cognitive ability.⁷

Loss of green space and contact with nature also leads to poor physical and mental health. Rapid urbanisation diminishes natural space while generating stress associated with traffic dominance and congestion, deteriorating housing, and poverty. We have learned that experiencing the natural environment has a profound impact on mental and physical health.^{8–10} The Royal Commission on Environmental Pollution (2007) reported that, in Britain, air pollution is responsible for 24 000 premature deaths each year.¹¹

Ecological collapse and loss of biodiversity: *Economics of Ecosystems and Biodiversity Review*¹² reports in an interim study sponsored by the European Commission (EC) and led by Pavar Sukhdev of Deutsche Bank

that accelerating decline of the natural world costs hundreds of billions of pounds a year, and unless urgent remedial action is taken, losses will increase dramatically over the next generation. If forests continue to be felled, seas overfished, and land turned to intensive farming, 'severe consequences' will befall all economies. The world has lost 40 per cent of its forests in 300 years, and half its wetlands in just 50 years. Biodiversity loss is already leading to wars, political destabilisation, and international tension. The livelihoods of billions of the world's poorest people who depend directly on nature to earn their living are being undermined.

What is the health community doing about this? Where are our public health visionaries of the twenty-first century? Perhaps there are stirrings, but few. In May 2009, *The Lancet* published University College London report warning that climate change is the biggest threat to global health of the twenty-first century. Richard Horton, the *Lancet's* Editor stated 'We have not just underestimated but completely neglected and ignored this issue. This has just not been an issue on the agenda of any professional body in health in the last 10 years in any significant way'.¹³

The Power of Public Health Associations

For 5 years, the UK Public Health Association (UKPHA) has informed and educated the public health workforce about the need to link health and sustainable development. In 2006, the UKPHA's think tank organised a National Symposium on Health & Sustainable Development (Edinburgh, 2007). UKPHA published the report and recommendations, *Climates & Change*.¹⁴ In December 2008 UKPHA joined England's Chief Medical Officer Liam Donaldson and Chief UK Government Scientist John Beddington to launch Climate Connection,¹⁵ a public health workforce development programme.

We have focused on education, training, and leadership development about climate change and health in England's regions, partnering with the NHS Sustainable Development Unit (NHS SDU) that is implementing the Carbon Reduction Strategy¹⁶ for the NHS and its supply chain. The NHS SDU published 'Saving Carbon, Improving Health: NHS Carbon Reduction Strategy for England' in January 2009, pursuing both adaptation and mitigation strategies in response to climate change.

Why take further action now? A new legally binding framework of national targets; strength of scientific evidence; long-term health benefits; meeting the 'best use of resource' criteria through cost reductions

and energy resilience; building on staff interest; and responding to public and partner expectations of NHS as a public sector exemplar of corporate citizenship.

Two English Regions lead in health and sustainable development workforce programmes (including non-health workforce), creating NHS Sustainable Development Champions within public health-related organisations – from CEOs to operators – sharing all carbon reduction practices. This work includes

- more robust baseline and reporting mechanisms for carbon reduction;
- leadership and governance arrangements within the Primary Care Trusts;
- organisational development work to support culture change;
- sustainable food procurement and increased energy and water efficiency,

Our work shows that Public Health Associations can influence national governments and demonstrate leadership essential to re-shape and empower the public health workforce to rise to twenty-first century challenges.

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