

BIOSPHERE QUALITY INDEX (BQI)

J. T. TREVORS¹, P. G. KEVAN¹ and M. H. SAIER, Jr²

¹*Department of Environmental Biology, University of Guelph, Guelph, Ontario, Canada, N1G 2W1;*

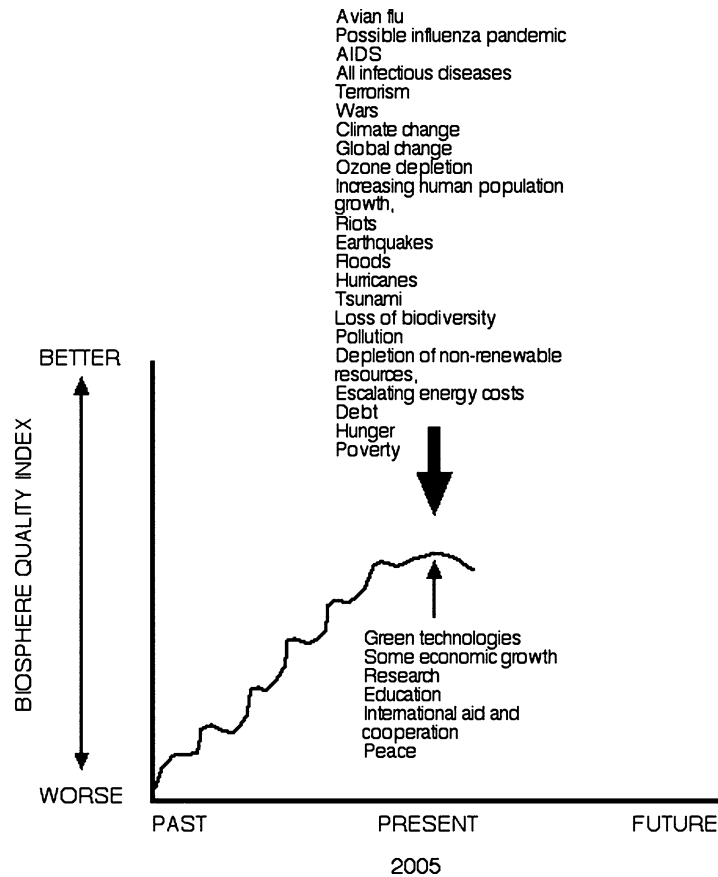
²*Division of Biological Sciences, University of California, San Diego, La Jolla, CA, USA
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We have defined the Biosphere Quality Index (BQI) as the total quality of the Earth's common biosphere. The BQI reflects the results of two opposing sets of forces, the downward forces that reduce biosphere quality (the overall condition of our biosphere), and the upward forces that increase biosphere quality, causing the biosphere to improve. At present, the downward forces outweigh the upward forces as a result of the preponderant effects of human activities. This means that we are not living sustainably, by no means a new consideration.

Our expanding human population depletes non-renewable resources and is causatively linked to poverty and hunger. Climate change also results from an excessive human population and its demands for more energy. The increasing human population and resource consumption are, we believe, the two most important problems facing mankind. There are just too many people on the Earth to allow a sustainable quality of life. This means that tremendous human suffering is inevitable now and into the future.

The number of human births per hour on this planet is about 14,900. Subtracting the number of deaths per hour (about 6400) leads to an increase of about 8500 people/hour, or 74 million people per year, worldwide. The current population is about 6.5 billion people (U.S. Census Bureau, World Vital Events), and the world consumption of oil is projected to increase by 48% from 2002 to 2020 (U.S. Dept. of Energy, International Energy Outlook). Considering that the global human population is increasing at a rate in excess of 200,000 people per day, and that people are increasing the consumption of goods and energy (accompanied by increased impairment of the environment and the biosphere), we can only anticipate that the downward forces are becoming increasingly dominant. Quite obviously, the situation is unsustainable as most environmentalists know.

The forces that have the greatest potential to counteract a downward trend in the Biosphere Quality Index are those that minimize resource consumption and reduce human population growth by strategic planning. These are (1) green technologies such as reducing consumption of goods, recycling and reusing products, (2) development of energy-efficient, renewable energy technologies, (3) research into, and implementation of, improved methodologies designed to minimize various aspects of the human impact, (4) education, (5) international aid and cooperation and (6)



peace. Activities designed to stabilize and then reduce the human population depend on the international provision of all reliable recognized tools of birth control. Wealthy nations must provide free means to birth control throughout the world. Correcting the immense increase in human population growth allows other global challenges such as food provision, education, and healthcare to be successfully implemented. Surprisingly, the cost to provide universal birth control is by no means prohibitive. It is estimated to range between 10–20 billion U.S. dollars per annum. Even so, the issue is one of the silences of our time.

Increasing the forces designed to reduce (1) resource consumption, (2) levels of pollution, and (3) the human population in order to preserve our biosphere must be facilitated by education and the judicious use of correct information/knowledge. This task is even more challenging than it might otherwise be, because resources (including financial resources) are more often diverted to destructive purposes such as war and wasteful lifestyles that are not compatible with the preservation of the natural world. How we extend the Biosphere Quality Index line beyond the present depends on whether activities continue to depress it, or whether a more positive

trend can be achieved by reducing human population growth and by lowering consumption of non-renewable resources.

The combinations of population growth, energy consumption, food production and consumption, international discord, violence, pollution and climate change (the downward forces) must be shifted towards conservation and away from growth in order to preserve and improve our common biosphere. The Biosphere Quality Index thus has the potential of providing a semi-quantitative measure of world sustainability by understanding the opposing forces and implementing actions that ensure a sustainable, common biosphere.