
Preface

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We cannot solve the problems that we have created with the same thinking that created them.

Albert Einstein

As we step into the 21st century, it seems appropriate to focus on environmental sustainability – an issue that directly affects the world we have inherited. Environmental issues have been at the heart of the debate for more than a decade now. Future generations might inherit a world where an unprecedented number of people might be forced to struggle to house, educate, and employ themselves and, in essence, lead a decent life. If we want to influence such a future scenario through the use of present strategies, the environment might end up as the first casualty. The point is that the present pattern of resource use has posed serious environmental problems and we do not have the required scientific data to understand and analyse them in order to arrive at a solution. Given the lack of consensus on a common methodology, we have to focus on these environmental problems from various perspectives, which deal with values and beliefs, lifestyles, technologies, governmental policies and non-governmental institutions. Such an analysis could profitably be carried out under the rubric of sustainable development, which has provided us with a valuable framework for dealing with the complex relationship between society and the environment. Illuminating that relationship and facing the future challenges in moulding and creating a better world for human inhabitation in a sustainable environment should be our main goal.

This special issue, which focuses on the theme 'Environmental Sustainability: The Challenges Ahead', is aimed at providing the goals and policies that can help to contribute to environmental sustainability. It also brings readers the most up-to-date information and appraisal of worldwide environmental issues. It is to be published in two parts, of which this is the first: Part 2 will appear later in 1998.

The topics covered range from climate change issues to efficient energy technologies, which could potentially remedy environmental problems. The article 'Will a global warming agreement be fair to developing countries?' by Adam Rose and Brandt Stevens, discusses the impact of carbon dioxide emissions on climate change. P.G. Babu critically analyses various issues related to climate change decision problems in 'Some issues in climate change decision-making'. Priya Deshingkar, in her paper 'Climate change adaptation in India: a case study of forest systems in Himachal Pradesh', discusses the impacts of climate-induced changes on forests, the economy and livelihoods of people. Another paper 'Thailand's disappearing forests: the challenges to tropical forest conservation', by Yuba Raj Bhusal *et al.*, describes various forest management practices and outlines the policy measures available in the pursuit of forest conservation. The article 'Motivation and roles for sub-national governmental participation in managing climate change', by David Feldman and Catherine Wilt, advocates the intervention of governments as a means to formulate and implement various programmes to manage GHG emissions. Another paper 'The economics of installation of an active solar heating system', by Armen Hovsepian and Mark Kaiser, suggests that technological innovation

could obviate the GHG problem by offering benign renewable energy solutions. The papers 'The implications of efficient electrical appliances for CO₂ mitigation and power generation: the case of Nepal', by Ram M. Shrestha *et al.*, and 'Energy-efficient options: techno-economic potentials for mitigating GHG emissions' by B. Sudhakara Reddy, review the prospects of energy efficiency improvements and show how efficient technologies could reduce electricity consumption and thereby the environmental implications. The papers 'A new paradigm of development for the next century' by Paul Ekins and 'Sustainable production: material and institutional considerations' by Sabine O'Hara, provide an understanding of the developmental paradigm and show how to integrate it into the social fabric of our societies, which will make it more effective in moving towards a world in which technology and the environment are partners.

We know that it is not possible to solve environmental problems unless there are concerted efforts on the part of the government, people, researchers, and non-governmental organizations. An environmental policy needs to be preventive, safeguarding the interests of future generations. Many of the problems involved can only be solved on the basis of our understanding, which is far from perfect given that the framework for cooperation still needs to be developed. These problems are woven into the very structure of our society. The root causes of unsatisfactory management of our life-support systems are often social, cultural and political.

For sustainable development what we need is a conscious changeover to growth patterns that promote environmentally sound technologies and an environmentally friendly way of life. My hope is that this special issue will contribute to progress along this important path by offering a fresh vision of homo sapiens as a part of nature.