

tions if there are no policy changes, and the policy alternatives to be considered.

*Surviving with the Biosphere* contains 30 chapters, each written by a distinguished scholar of international stature. The chapters deal with climate change; agricultural and forest policy and practices; the use of the oceans; marine and freshwater fisheries management; genetic and biological diversity; social and economic stresses; human population issues; clashes between competing rights within and between societies; causes of social conflict; north/south tensions; philosophies of government; and future environmental conditions. The overriding theme is how the biosphere and the environment is, or is likely to be, affected by human actions.

The chapters dealing with so-called traditional environmental issues (e.g., human population, climate change, ecosystem alteration, biological diversity, and natural resource management) are of high quality, but similar material is available in other publications. Particularly noteworthy are the commentary sections at the end of each chapter. These sections, which summarize discussions that took place after each presentation, contain some of the most interesting ideas in the book. Participants often reach well beyond the narrow scientific questions and data and speculate insightfully on environmental and social policy challenges. As with most transcripts of meeting discussions, the important function is often buried within the general chatter. More vigorous editing of the commentaries would have been useful.

Unfortunately, many readers are likely to skip the commentaries, which would be a mistake. There are ideas advanced in the commentaries that warrant further development and application if the biosphere is to be effectively managed. A few examples are the implications of the increasing disparities in the wealth of nations, the standard-of-living disparity between the north and south, and the potential of government to address social problems. Regrettably there is not enough discussion of practical options avail-

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#### THE FUTURE OF THE EARTH

*Surviving with the Biosphere*. Nicholas Polunin and John Burnett, eds. Edinburgh University Press, Edinburgh, Scotland, 1993. 572 pp., illus. \$79.00 (ISBN 0-7486-0314-X cloth).

This book is the proceedings of the 1990 "International Conference on Environmental Future," which was held in Budapest, Hungary, and attended by 140 scientists from 30 countries. The conference was the fourth in a series that dealt with the future of the earth from an environmental perspective. The first three conferences were held in Finland (1971), Iceland (1977), and Scotland (1987).

The 1990 conference focused on five general issues: human population, alteration of ecosystems, biological diversity, gaps in wealth between countries, and social conflict on a local and regional scale. Each issue was considered with respect to the current condition of the environment, the likely future condi-

able to solve these problems.

The material on clashes in rights was intriguing and seemed to move to the core of many environmental issues. On one hand, the rights of individuals are important, and the movement toward democracy is an affirmation of these rights. On the other hand, the so-called rights of society are also important and must be balanced against the rights of individuals. The issue and options for property rights at sea included ideas not typically found in similar books. None of this material is really new in the policy literature, but it is engrossing to hear scientific colleagues expressing opinions on important public policy issues.

The contrasting approaches of ecosystem management and sustainable development advocated by the Brundtland Commission are another example of the interesting discussions to be found in this book. The ecosystem management approach may be looked at as a bottom-up, grassroots counterpart to the top-down, global approach of sustainable development. Should we have more or less central government? Should economies become more decentralized? Is democratization of environmental decisions needed? Why has centralization of power led to central governments becoming dysfunctional? Discussions about the optimal size of countries are fascinating for the implications to current environmental and social problems.

Two general audiences are likely to be interested in *Surviving with the Biosphere*. The primary audience of scientists is likely to find the various chapters on environmental issues to be credible, balanced, and relevant. There is little new information offered, but the chapters are excellent summaries of the current state of knowledge. The other potential audience consists of those interested in environmental, natural resource, and social policy questions. The information offered them here is less crisp and more diffuse than that on environmental issues. There is also a strong dose of a utopian world view in some of the discussions.

*Surviving with the Biosphere* addresses many of the forces and trends

that are likely to shape Earth's future. Numerous partial or complete solutions are offered for environmental problems. Whether the solutions are appropriate and whether they are practical is left for the reader to judge.

ROBERT T. LACKEY

*Environmental Research Laboratory  
US Environmental Protection Agency  
Corvallis, OR 97333*

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