

## Chasing the Ecologically Sustainable Development Mirage

*State of the Environment Advisory Council, Australia: State of the Environment 1996, CSIRO Press, Melbourne, 1996*

*Reviewed by Ian Wills*

**T**HE National Strategy for Ecologically Sustainable Development adopted by all Australian governments in 1992 calls for regular reports on the national state of the environment to enhance the quality, accessibility and relevance of data relating to ecologically sustainable development (ESD). *State of the Environment 1996* is the first such report, undertaken by the Commonwealth-appointed State of the Environment Advisory Council. Advisory Council members were directly responsible for the two introductory chapters and the final chapter, 'Towards Ecological Sustainability', which identifies key issues in, constraints on and information needs for better environmental management. Groups of experts prepared the seven intervening chapters on human settlements, biodiversity, the atmosphere, land resources, inland waters, estuaries and the sea, and natural and cultural heritage.

The report's conceptual structure is a modified version of the pressure-state-response model developed by the OECD. Each of the seven area chapters discusses, in turn, the human activities which exert pressures on the environment, the current condition of resources, and societal responses. Most results are reported in qualitative rather than quantitative terms. Summary tables at the end of each chapter list environmental components/problems and, for each component/problem, its present state, the adequacy of information, societal responses and an assessment of their effectiveness. In the concluding chapter, the Advisory Council identifies what it sees as the key issues arising from the report: the need for a systems-based approach to environmental management; loss of habitat and biodiversity; rural land degradation; high carbon dioxide emissions per unit of GDP; failure to integrate the management of land with that of adjacent inland and coastal waters; adverse environmental impacts of urban transport and waste disposal systems; and protection of the well-being and culture of indigenous Australians and of Australia's natural and cultural heritage.

*State of the Environment 1996* presents a large amount of information in a relatively non-technical way. The writing is clear, if prosaic. Extensive use of colour-coded headings and subheadings makes the text easy to follow, and it is enlivened by liberal use of colour photographs. Numerous coloured charts, maps and tables illustrate and expand on arguments in the text. The authors use highlighted boxes to explain the complexities of scientific issues, definitions, administrative and legislative arrangements, and environmental policies and policy options. Although the report guides the reader to detailed sources, it does not itself provide sufficient detail for the specialists responsible for environmental management and policies. Yet its comprehensive coverage of environmental issues, readability and attractive

presentation should ensure that it is extensively read and quoted. It will no doubt be a staple source for secondary school projects in the years to come.

*State of the Environment 1996* does a good job of describing the state of Australia's environment, but, in turning to diagnoses and policy prescriptions, it understates the scientific and behavioural uncertainty attending many environmental problems and policies. The Chair of the Advisory Council recognises the uncertainty problem in Chapter 1: 'In many important areas, Australia does not have the data, the analytical tools or the scientific understanding that would allow us to say whether current patterns of change to the natural environment are sustainable. We are effectively driving a car without an up-to-date map, so we cannot be sure where we are' (p. 1-7). One would therefore expect the Advisory Council and its chosen experts to concentrate on description and the science of environmental changes, and avoid unqualified conclusions about the appropriateness and effectiveness of Australian governments' environmental policies. But this is not the case. For example, the chapter on human settlements advocates expanded government roles in urban design and public transport planning to reduce car-based suburban sprawl. However, little attention is paid to the housing and transport preferences of urban residents, the problems of financing and managing public transport, and the susceptibility of governments to lobbying by urban pressure groups.

Another major problem with the report, related to inadequate scientific understanding, is the lack of integration of material across the key areas of the environment addressed in the seven area chapters. The expert groups are doubtless well qualified to assess problems and policy responses within their particular areas of expertise. However, their conclusions relate to particular facets of the total picture of human-environment interactions. The introductory and concluding chapters do not integrate the area chapter results, because the Advisory Council has no clear model of the totality of human-environment interactions in Australia. Thus, while the individual area chapters are valuable compilations of information in their own right, it is unclear whether the policy responses discussed in the chapters are consistent in physical, biological and behavioural terms. For example, it is possible that land use controls designed to protect biodiversity or natural and cultural heritage may, by reducing commercial returns from agricultural or pastoral operations, cause farmers to alter operations to the detriment of land resources or inland waters.

The State of the Environment Advisory Council advocates a systems-based approach to environmental management. But it never addresses the inconsistency between a systems-based approach and its own compartmentalisation of environmental issues according to key areas of the environment. Thus, Chapter 10, ostensibly an assessment of progress toward the overarching goal of ecological sustainability, in fact simply identifies what the Advisory Council sees as the key environmental management issues arising from the preceding area chapters.

The Council does recognise, in Chapter 10, the impediments to effective ecosystem management posed by compartmentalisation of problems according to the jurisdictional boundaries of governments and departments. It commends the Great Barrier Reef Marine Park Authority and the Murray-Darling Basin Commission as

'innovative structural solutions to complex management problems' (p. 10-27). However, consistent with its general avoidance of behavioural issues, it eschews suggestions regarding what might be done about political, economic and administrative barriers to changed environmental management.

The lack of analysis of human behaviour is a further major weakness of the report. While the authors focus on human activities as the causes of Australia's environmental problems, they pay little attention to the ways in which people's preferences and Australian society's administrative structures and rules governing natural resource use contribute to those problems. Australians' actions are criticised, but not analysed. Yet sustainable use of Australia's environment depends as much on understanding why people, in their roles as consumers, commuters, manufacturers, farmers, and so on, use natural resources in ways which harm others as it does on understanding the physical and biological consequences of those actions for the condition of the environment. How can the authors sensibly assess the effectiveness of governments' policy responses in the absence of information about people's preferences, information and options, and about political and economic constraints on policy choices and implementation?

The lack of behavioural analysis would be understandable if *State of the Environment 1996* were simply the first in a continuing statistical series reporting quantitative environmental indicators. However, as previously indicated, the pressure-state-response information in the report is mostly qualitative, and thus of limited value as a baseline for continuing environmental monitoring. Indeed, in Chapter 1 it is pointed out that the report is only a first step: 'Development of a nationally agreed set of environmental indicators is ... a complex task that will take a number of years to complete ... It will be necessary to progressively identify a scientifically credible set of environmental indicators and associated monitoring requirements' (p. 1-8).

The lack of behavioural analysis contributes to frequent incomplete or faulty economic reasoning. For example, the report judges efficiency of resource use in human settlements on the basis of resource use and waste production per head of population, without considering the quality of life, time and energy sacrifices in alternatives involving less resource inputs and more recycling. Again, it advocates uniform environmental standards across Australia, without considering the different benefits and costs of uniformity due to differences in the local environment, population and people's circumstances. The Advisory Council suggests that modern food production is less energy efficient than past 'household food self-sufficiency', without considering the energy-consumption consequences of spreading the population across the arable landscape. It applauds container deposit legislation in the face of doubts that it increases resource-use efficiency. But there are examples of appropriate balancing of benefits and costs: for example, the authors of the land resources chapter point out that pest animal eradication is generally unrealistic, because the costs of control per animal increase with decreasing pest densities.

The Advisory Council's pursuit of suitable environmental indicators has been seriously handicapped by tying it to an imprecise policy goal, namely, ESD. De-

defined as 'a pattern of development that improves the total quality of life, now and in the future, in a way that maintains the ecological processes on which life depends' (p. 10-4), ESD has been an agreed goal of all Australian governments since 1992. Yet, as described in Chapter 10, ESD is no more than agreed lists of broad objectives and guiding principles.

ESD cannot serve as the basis for state of the environment reporting. At present, we know too little of the functioning of natural ecosystems and human societies, and of the interactions between the two, to be able to agree on a precise definition of ESD, to measure it, and to move economic-environmental systems towards increased sustainability (Common, 1995:ch.3; Wills, 1992). Without detailed scientific and behavioural information about the trade-offs between the at-some-point-conflicting objectives listed in Chapter 10 (for example, biological diversity and maintaining Australia's international competitiveness), it is simply impossible to chart a path to a sustainable future. Yet, as a slogan denoting commitment to the environment, ESD has a firm hold on the minds of political decision-makers, who foot the bills for reports on the state of the environment. This may explain the discrepancy between the Advisory Council's stance in Chapter 1, where its Chair writes of 'driving without an up-to-date map', and Chapter 10, implausibly titled 'Towards Ecological Sustainability'.

The Council would do better to maintain its initial stance throughout. Admitting our inability to define and implement ESD, it could concentrate on using available scientific and behavioural information to select a provisional set of indicators of the state of the environment, based on the results in Chapters 3-9. As knowledge of the physical, biological and ecological functioning of the environment and of human interactions with the environment improves, the initial set of environmental indicators could be progressively revised, as advocated on page 1-8 of the report.

As it is, an opportunity to educate people about the complexities and uncertainties of human-environment interactions is largely squandered. Australians may be encouraged to believe that human-environment interactions are much better understood, and welfare-enhancing environmental policies much easier to identify and implement, than is in fact the case. So while the descriptive material in *State of the Environment 1996* will be valuable in increasing Australians' knowledge of particular environmental resources and problems, the overall effect of the report may be to encourage demands for ill-informed quick solutions to complex problems.

## References

- Common, M. (1995), *Sustainability and Policy*, Cambridge University Press, Cambridge.
- Wills, I. (1992), 'Implementing Sustainable Development: Systems and Signalling Problems', *Review of Marketing and Agricultural Economics* 60: 285-92.

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