

Institutions for Sustainability

Tela



Institutions for Sustainability

issue

7

Stephen Dovers

Centre for Resource and Environmental Studies,
The Australian National University

April 2001

Jointly sponsored by:

**The Australian Conservation Foundation
The Environment Institute of Australia
Land and Water Australia**

Contents

Abstract	PAGE 1
1. Introduction	PAGE 3
2. The nature of institutions	PAGE 5
3. The nature of sustainability problems	PAGE 9
4. Institutions for Sustainability	PAGE 13
5. Assessing current institutions	PAGE 16
6. Ways forward	PAGE 27
Further reading	PAGE 32

Abstract

This paper discusses the nature of sustainability and the institutional arrangements that can help or hinder the pursuit of a future society that is both ecologically sustainable and humanly desirable. All collective efforts are mediated through institutions, and without institutional change we will not move purposefully toward sustainability. Although there has been much policy development under the banner of 'ecologically sustainable development' (ESD) in recent years in Australia, institutional change remains at the margins of public policy and administration. The paper considers how this situation can be rectified.

PAGE I

The characteristics of ESD problems are discussed, such as spatial and temporal scale, complexity and uncertainty, and the need for community participation. The paper then uses an 'adaptive' approach to frame the requirements of institutions for sustainability, suggesting the core principles of persistence, purposefulness, information-richness, inclusiveness and flexibility.

The strengths and limits of some current arrangements are assessed, and then particular attention is given to a selection of current institutional arrangements that fulfil at least some of the requirements for an adaptive approach.

Without institutional change we will not move purposefully toward sustainability.

Finally, suggestions are given for institutional reforms to establish ESD as a policy field that enjoys parity with other, at present more influential and well-supported fields. Specific recommendations include:

- A wide ranging legislative review to recommend changes to laws that hinder or do not promote ESD - analagous to the competition policy legislative review;
- A National Commission or Council for ESD to promote discussion and cooperative action between the three levels of government, the private sector and community groups;
- A Commissioner for ESD or Offices for ESD to ensure implementation of ESD policies in government agencies;
- An Australian Institute for ESD to generate new ideas, inform cooperative policy development, develop standards, prepare manuals and run training courses – similar to the role played by the Australian Emergency Management Institute for emergency management;

- Long term support for Landcare and similar groups to encourage and support commitment to ESD practices from local communities;
- Much increased support for long term ecological research and monitoring;
- A Bureau of Ecological Economics together with changes in the mandate and functions of mainstream economic agencies to ensure that alternative economic analyses based on ecological perspectives are taken into account in policy making.

1. Introduction ¹

‘...there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things.’ (Machiavelli, 1532, *The Prince*)

PAGE 3

Sustainability is a profound challenge, which requires change to basic structures of society.

For many people, a society that is ecologically sustainable and humanly desirable will entail a ‘new order of things’. That is, sustainability is a profound challenge, where the basic assumptions and structures of society must be altered. Whether you agree with that or believe that the challenge is not so crucial, it is not trivial. Significant changes are required in the way we – governments, individuals, firms and households – go about our business. That our present situation is unsustainable is clear; the empirical evidence is abundant. The causes of unsustainable behaviour lie deep in society, in patterns of production and consumption, settlement and governance. These patterns have emerged over long periods of time and are highly resistant to change.

These patterns are largely determined by *institutional arrangements*: the customs, laws, underlying rules and persistent organisations that shape our individual and collective behaviour. Without institutional change little will be achieved or, if positive changes are attempted, they are unlikely to persist. Change in human societies occurs within, is carried through, and affects institutions. This paper is about institutional arrangements and how they might encourage rather than constrain sustainability. The focus is on Australia, although the issues are global. I will use the Australian term ‘ecologically sustainable development’ (ESD). Internationally, the terminology is ‘sustainable development’, and this and ESD should be thought of as a variable process designed to take us closer to the difficult, far-off goal of a sustainable state.

The paper deals with changes possible within existing legal, political and constitutional settings. More radical prescriptions can and should be advanced and debated, although in the current political climate I frankly doubt the chances of radical change, however justified it may be. Yet, while by no means radical, the ideas for reform put forward do not involve only tinkering. They demonstrate ways in which quite reasonable and achievable reform can do two things. First, we obviously should and clearly could take sustainability more seriously

¹ Given limits of space and the scope of the topic, this paper is constrained in what it can cover. The concentration is on the environmental dimension of sustainability or ESD, rather than the social or economic; other Tela papers cover related topics such as public health issues, taxation, and social justice. International dimensions are also not covered. There is an emphasis on the national scale, but this should be viewed as not only important in itself but also an indication of the requisite approach to analysing and prescribing institutional reform at the state/territory level. The author thanks David Yencken, Mike Krockenberger and two anonymous referees for their valuable comments on this paper, and various research colleagues including John Dore, John Handmer, Catherine Mobbs, Tony Norton and Su Wild River, but takes responsibility for remaining deficiencies.

and reflect this in the institutions of public policy. And we should and could enhance the standing of environmental concerns and sustainability more broadly to the extent that they enjoy parity with other policy imperatives, especially economic ones.

Consistent with this approach, I will use the notion of ‘adaptive’ institutional arrangements that suit the core attributes of sustainability problems. The nature of these problems instruct us to seek institutions that are persistent over time, are obedient to core principles, are informed and informing, are inclusive of a variety of interests, and are sufficiently flexible to learn and improve. Our institutional arrangements do not yet display such characteristics sufficiently. To provide a basis for considering how they might, the next two sections explore the nature of institutions and of the problems we seek to address.

Patterns of unsustainable behaviour have emerged over long periods of time and are highly resistant to change. They are largely determined by institutional arrangements.

2. The nature of institutions

An *institution* is an underlying, durable pattern of rules and behaviour. An *organisation* is a more changeable manifestation of that. For example, the institution of the common law manifests through the organisational form of a particular court. For convenience and brevity, I will merge institutions and organisations in this discussion, with the important proviso that an organisation would need a good degree of longevity and social acceptance to be thought of in these terms. This merging is a convenience but it also focuses on the notion of ‘institutionalising’ sustainability as a social concern – that is, to make it a more permanent and pervasive imperative across all fields of public policy rather than an ephemeral or marginal phenomenon.

Institutions may be formal or informal, local, national or global, legal or customary, scientific, political or economic. Later, ways of describing the attributes of institutions will be provided to enable a match between institutions and what we want them to do. A definition can be (drawing partly on J. Henningham):

An institution is a persistent, reasonably predictable arrangement, law, process, custom or organisation structuring aspects of the political, social, cultural or economic transactions and relationships in a society. Institutions allow organised and collective efforts toward common concerns and the achievement of social goals. Although by definition persistent, institutions constantly evolve.

Institutions both as an area of analysis and as a reality of modern life are monstrously complex. Not only are there many institutions, they merge and interact in multiple ways. In the case of a multi-dimensional and cross-sectoral policy issue pervaded by uncertainty – such as sustainability – this complexity is acute. In a brief paper, only a small part of the relevant institutional landscape can be dealt with.

**An institution is an underlying,
durable pattern of rules and behaviour.**

This paper is not about the merits of particular environmental policies; it is about institutions that can enable better policy and management. The emphasis here is more on policy *process* than *product*. While the intended product of sustainability policy is positive change in the environment, in human interactions with it and in the human condition, these changes will depend on good process. New or reformed institutional arrangements may be an

outcome of policy, but they are also the means whereby policy change is achieved, learned from and improved. They are often also barriers to positive change. Policy processes, whereby society debates and formulates options and implements and evaluates these, must be mediated through institutions.

Institutions are monstrously complex.

It is often stated that failure to implement the goal of sustainability is due to 'institutional failure' or inappropriate institutional arrangements. Many recommendations have been made, but before dealing with possible institutional reforms some background is necessary. If we are to design better institutions for sustainability, we need guiding principles for the design of new institutions, and for recognising the positive and negative features of existing ones. These principles need to reflect what we know about institutions, and about sustainability issues and policy and management challenges. First, what we know about human institutions, what makes them successful and persistent or not, can be summarised here in five 'desirable principles of institutional design' proposed by Goodin:

- *Revisability*, where an institution and those within it can learn through experience, and change trajectories and practices as required;
- *Robustness*, where an institution is not subject to ill-thought change in response to any fleeting imperative, but responds appropriately to more or less significant pressures;
- *Sensitivity to motivational complexity*, accepting that what constitutes 'appropriate' or 'significant' will vary, and that institutions must be open to a variety of motivations and values;
- *Publicity*, where the logic of an institution or institutional change are publicly defensible and can gain political and community support; and
- *Variability*, so institutional learning can be enhanced through encouraging 'experiments' in different places and within different structures.

These principles are general and not at all strict. Judging that such principles *have not* been fulfilled may be easier than ensuring that they *are*. Set rules for institutional design are impossible – varying situations demand qualitative judgements. But these principles reflect general institutional theory and experience, and are relevant to institutions for sustainability. Later, the particular characteristics of sustainability problems will be considered and more specific and operational principles presented.

Another principle is how well an institution fits in its operating environment. ‘Goodness of fit’ as a criterion for a successful institution is at once valid and inadequate. It is useful as an explanation in hindsight, and in terms of small changes to the *status quo*. But it works less well when the purpose is to question existing institutional arrangements. Virtually every discussion of sustainability concludes that our existing institutions are part of the problem and that reform is required. If institutional reforms ‘fit’ too well into the operating environment then it is likely that they will, at best, be insufficient. At worst, they will exacerbate the situation by encouraging unsustainable behaviours. As Goodin notes, there might be ‘good reasons for seeking institutions that fit ill, not well, with the rest of their environment’. Vigorously pursuing ESD requires institutions that *do not fit*.

This might suggest only radical change. However, institutional change by sudden revolution is rare, and stands a higher chance of mistakes being made in haste. More practically, quick and major change has less chance of being achievable politically. Most institutional change is incremental and, though an incremental strategy has weaknesses for urgent problems like sustainability, it would be impractical to ignore this reality. Purposeful incrementalism can produce profound changes, although perhaps not as quickly as some might wish. Changes to underlying process may have long term impacts that quick or superficial change will not. And there may be existing arrangements that can promote desirable change. Recent initiatives in Australia have been more in the nature of disjointed incrementalism, lacking continuity. Policy has been too often a stop-start affair, characterised by *ad hocery* and amnesia.

Virtually every discussion of sustainability concludes that our existing institutional arrangements are part of the problem and that significant reform is required.

This paper identifies existing institutions with potential as well as new ones. The practicalities of reform will be kept in mind, such as whether new arrangements would require significant reform of Australia’s political or constitutional settings. Some sensible possibilities – such as for an environmental head of power in the Constitution – are not pursued. Our poor record of constitutional change is not encouraging.

To analyse existing or design new institutions, especially in terms of matching the intended task, some detail of the nature of institutions is required. The following *attributes of institutions* are ‘neutral design features’, to aid a finer resolution view of institutional arrangements in different circumstances. (Purposeful design features, more directly relevant to adaptive institutions for sustainability, are presented later): This is a long list. But institutions are multi-faceted, and ignoring complexity lessens the chance of matching specific institutional capacities with specific problems and contexts:

- spatial extent or limits
- political and administrative boundaries
- permanence and longevity
- role or roles (informational, cultural, legal, economic)
- sectoral or issue focus
- nature and source of mandate
- autonomy, independence and accountability
- formality or informality
- political nature and support
- exclusiveness/inclusiveness
- community awareness and acceptance
- functional and organisational flexibility
- resource requirements (financial, human, material)
- information requirements
- linkages with other institutions.

This detailed but generic view is a start, but to progress we need to consider the nature of sustainability and identify relevant principles to guide institutional analysis and design.

Considering the nature of sustainability problems emphasises *means* before *ends*. Institutional reform must have a purpose, and that purpose must be shaped by the particular issue – in this case, sustainability. There will always be more than one institutional means to a given end. Too often, institutional and policy change does not flow from sound problem definition and consideration of alternative proposals. People have their favourite models and advocate them against those of others. The suggestions for reform given later in this paper are defined by the problem attributes defined in the next section.

3. The nature of sustainability problems

While concern over the long-run sustainability of human societies has deep roots, the contemporary challenge of sustainability in a policy and institutional sense is quite recent. The challenge of sustainability can be described by, first, the way recent policy and law describe it and, second, by delving deeper into the nature of sustainability problems.

The goals and principles of 'ecologically sustainable development' (ESD) were endorsed by all Australian governments following an inclusive policy processes from 1990-92. The outcome of this process was a National Strategy for Ecologically Sustainable Development. That Australian process closely followed the global 'sustainable development' debate that began with the World Commission on Environment and Development's 1987 report, *Our Common Future*, and culminated in the signing by 179 countries of the Rio Declaration at the UN Conference on Environment and Development in 1992. Box 1 sets out the goals and principles of ESD, and notes some of the policies and laws that express these.

Box 1: Goals, principles and expressions of ecologically sustainable development (ESD)

I. The National Strategy for Ecologically Sustainable Development

(Australian Government Publishing Service, 1992):

Goal: Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

Core objectives:

1. To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations.
2. To provide for equity within and between generations.
3. To protect biological diversity and maintain essential ecological processes and life-support systems.

Guiding principles:

1. Decision making processes should effectively integrate both long and short-term economic, environmental, social and equity dimensions.
2. Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation [the precautionary principle].
3. The global dimension of environmental impacts of actions and policies should be recognised and considered.
4. The need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised.

5. The need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised.
6. Cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms.
7. Decisions and actions should provide for broad community involvement on issues which affect them.

II. Selected laws 'expressly including ESD principles':

Commonwealth:

Environment Protection and Biodiversity Conservation Act 1999
Fisheries Legislation Amendment Act 1997
Great Barrier Reef Marine Park Authority Act 1975
Productivity Commission Act 1998
Natural Heritage Trust Act 1997
Murray-Darling Basin Act 1993.

State / Territory:

NSW Catchment Management Act 1989
NSW Environmental Planning and Assessment Act 1979 (as amended)
NSW Local Government Act 1993
Vic. Planning and Environment Act 1987
Qld. Integrated Planning Act 1997
SA Water Resources Act 1990
Tas. Living Marine Resources Management Act 1995
WA Agricultural Chemicals (Western Australia) Act 1995
NT Pastoral Land Act 1992
ACT Auditor-General Act 1996.

Source: Stein, P. 2000. Are decision-makers too cautious with the precautionary principle? *Environmental and Planning Law Journal*. 17: 3-23. Stein identifies over 120 state, territory and Commonwealth statutes that express or explicitly refer to ESD principles.

III: National policies expressing ESD goals and principles (selected national examples only – these number in the hundreds):

Intergovernmental Agreement on the Environment 1992
National Forest Policy Statement 1992
National Strategy for the Conservation of Australia's Biological Diversity 1996
National Guidelines and Principles for Rangelands Management 1998
National Policy on Fisheries Bycatch 1999

These goals and principles are generally expressed vaguely and do not instruct decision makers or institutions on how or to what degree to implement them. While Australian governments have put in place many policies, programs and laws reflecting ESD, there has been less lasting institutional change. If institutions and institutional change are to be purposeful – to head in a preferred, positive direction – then core principles are required. ESD principles are the basis for this.

While Australian governments have put in place many policies, programs and laws reflecting ESD, much less attention has been paid to more systemic institutional change.

Australia's 1990-92 ESD process was innovative, with national policy developed through representative working groups and public input. Surprising consensus was reached between industry and environmental interests, but this was diluted through a bureaucratic and political process in drafting the National Strategy. The rather minimal provision for continued policy discussion, an inter-governmental committee, lapsed in 1997. The Productivity Commission in 1999 reviewed ESD implementation and documented a lack of normal 'good policy practice'. Implementation difficulties in a new and complex field are to be expected, but this is a deeply disturbing charge that suggests ESD was not taken seriously. There is a failure of implementation, but also a deeper failure to 'institutionalise'. Sustainability remains at the margins of public policy and administration. Nevertheless, the principles of ESD have pervaded policy and law – over 120 Australian laws express them, as do hundreds of policies. One, the 'precautionary principle' (principle 2, Box 1), has been debated in the courts and is an emerging principle of international law. It is through the courts that vague principles will impact on public policy. ESD principles remain the most cogent framework we have, and reflect decades of accumulated understanding as well as international policy settings. The challenge is to refine them and enter them into decision making processes.

Our policies and institutions must reflect the nature of policy problems in sustainability. ESD principles convey some of this, but as expressions of political compromise they have their limits. We can go deeper. Problems like biodiversity, integrated land and water management, climate change and environment-population linkages display attributes

encountered less often, and especially in combination, than in many other policy fields (say, service delivery or economic policy):

- broadened and variable spatial scales;
- deepened and variable temporal scales;
- the possibility of ecological limits to human activity;
- irreversible impacts;
- complexity within and connectivity between problems;
- pervasive risk, uncertainty and ignorance;
- important environmental assets not traded or valued in markets;
- often cumulative rather than discrete impacts;
- new moral considerations (eg. other species or future generations);
- 'systemic' problem causes, embedded in patterns of production, consumption, settlement and governance;
- lack of accepted research methods, policy instruments and management approaches;
- lack of defined policy, management and property rights and responsibilities;
- demands for increased community participation; and
- sheer novelty as a set of policy problems.

These attributes make sustainability problems different *in kind* to many other policy problems; they may also be different *in degree*. Thus sustainability problems will require policy and management approaches that match these attributes, and these approaches will of necessity have to emerge from institutional arrangements that are different from those fashioned around traditional policy problems. Existing institutions are inadequate because they are not adapted to sustainability problems. These attributes challenge research, policy making, law, and institutions. To achieve sustainability, we need to plan and act for the longer term, across traditional sectors, issues and political boundaries. We need to recognise and address complexity and uncertainty, both in terms of informing ourselves better and of acting without adequate information. We need to develop, apply and test new policy and management approaches, and to evolve new legal and economic definitions of rights and responsibilities. And we need to keep a range of interests engaged.

With this sketch of the nature of institutions and of sustainability problems, we can proceed to define principles of institutional analysis and design specially formulated for sustainability. These challenges can be brought together through an *adaptive* approach.

4. Institutions for sustainability: analysis and prescription

Faced with the complexities and uncertainties of managing ecosystems, ecologists developed the idea of 'adaptive management'. This accepts uncertainty and that we do not know whether our policy and management approaches will work, and treats these interventions as hypotheses to be tested and learned from. It is surprising how poorly we at times allow for policy and management learning, and this makes the designing in of monitoring, evaluation and communication crucial. We can extend this approach to include institutions and social learning across a broader range of sectors and issues – *adaptive processes, institutions and management*. Being adaptive recognises that we are still settling Australia, continuing an experiment of human settlement that began thousands of years ago. Sustainability is the great challenge of settlement now. It will also be the hardest and will take many decades, if not centuries. Being adaptive demands that we have the confidence to implement decisions, but also the humility to recognise the limits of our knowledge and to constantly learn and seek improvement.

Sustainability requires adaptive processes, institutions and management.

What would be the features of adaptive institutions and policy processes? Noting the general design features of institutions presented earlier, we can identify five key principles for adaptive institutions, and match these with the attributes of policy problems in sustainability:

- *Persistence*, where efforts are maintained over time, enabling learning from experience, rather than the past pattern of *ad hocery*. This principle addresses the attributes of temporal scale, pervasive uncertainty, cumulative impacts, systemic causes, and lack of methods and policy and property rights.
- *Purposefulness*, where efforts are supported by stated principles and goals (ESD principles provide the basis for this). This principle addresses the attributes of temporal scale, uncertainty, new moral dimensions and novelty.
- *Information-richness and sensitivity*, where the best information is sought and made widely available. This principle addresses the attributes of uncertainty, lack of methods and policy approaches, the need for participation, and systemic causes.
- *Inclusiveness*, where the full range of stakeholders are involved in policy formulation and in management. This attends the attributes of demand for participation, spatial scale, uncertainty and lack of policy and property rights and responsibilities.

- **Flexibility**, where there is a preparedness to experiment, preventing persistence and purposefulness from becoming rigidity. This attribute addresses temporal and spatial scale, uncertainty, and novelty.

Across all these principles is the imperative of defining suitable spatial and administrative scales. Ecological (and many human) processes rarely match historically defined political boundaries, and the match of human and natural scales is an ongoing challenge.

These principles are general but indicate the necessary direction. There are tensions between them, and the art and craft of institutional design is to balance them. However, more operational ‘rules of thumb’ for assessing and designing institutions are required. Box 2 identifies and explains a set of such guidelines. As opposed to the neutral set presented earlier, these are positive and specific to sustainability problems.

Box 2: Requirements of adaptive institutions

Attribute	Explanation
Purposeful mandate	<i>Having a stated vision and set of goals, and a matching mandate to pursue them. ESD principles should form the basis of this.</i>
Longevity	<i>Sufficient longevity to persist, experiment, learn and adapt (including maintenance of institutional memory).</i>
Properly resourced	<i>Sufficient human, financial and informational resources.</i>
Legal basis	<i>A clear basis in statute law (or, less usually, common law) ensuring transparency and accountability, and a higher probability of persistence. This has three dimensions: existence of enabling legislation, appropriateness of this, and full use of the powers and principles within the statutory backing.</i>
Independence	<i>A degree of independence from short term political pressures, and not being too reliant on a temporary mandate or resources.</i>
Informed and informing	<i>High priority on information generation, use and wide ownership, with an emphasis on long-term monitoring and evaluation. Equally high priority placed on: ecological information; socio-economic information; policy and management monitoring; and multiple sources of information (scientific, community, traditional, etc.).</i>

Multi-functional	<i>Integration of research, planning, management and/or policy roles, so that these are not kept separate or poorly connected. Achievable within an institution, and through coordination with others.</i>
Applied	<i>Degree of applied or grounded focus (be this on a region, issue or sector), to ensure that actions and prescriptions are operational.</i>
Integrative	<i>Integrating environmental, social and economics aspects, and pursuing cross-sectoral, cross-problem and/or cross-cultural views.</i>
Coordinated and coordinating	<i>Maintenance of linkages with other institutions and processes in related areas, in recognition of the interconnected nature of ESD problems.</i>
Inter-jurisdictional (where necessary)	<i>Cognisant of and capable of handling issues and process that cut across political and administrative boundaries (local, state, national).</i>
Participatory	<i>Participatory structure and process that is clear, genuine, predictable and maintained. Participation appropriate to the context – recognising and choosing from a wide range of participatory options, from high-level policy fora to on-ground management collaboration.</i>
Comparative	<i>Ability and mandate to engage in comparative analysis across sectors, issues and methods (whether concurrent or sequential).</i>
Experimental	<i>Mandate and ability to experiment with approaches and methods, and to move across disciplinary and professional boundaries.</i>
Politically supported	<i>Having political support at government, community and industry levels to enable establishment and favour persistence.</i>

These requirements are more operational, relate to the nature of sustainability problems, and are flexible enough to be adapted across situations. Not every requirement would need to be fulfilled in every instance – a requirement might be fulfilled by linkages across institutions and policy processes. The primary use is as a checklist of preconditions for institutional suitability, to inform discussion of how to improve institutional and policy capacities. In the next section, these requirements inform an assessment of existing arrangements. This will be done through assessments of current institutional arrangements and policy processes.

5. Assessing current institutions

This section deals with three sets of existing arrangements. The first comprises examples of failures in arrangements to fulfil the requirements proposed above.

State of Environment reporting (SoE) is now widespread, initially defined narrowly around 'environment' but more often now by the broader notion of ESD. The intent is sound: that policy debate and development be informed by a regular overview of the state of the environment, pressures on the environment and the adequacy of policy responses (the pressure-state-response (PSR) model is a common basis for reporting). The Commonwealth's current SoE reporting mechanism was a recommendation of the ESD process, and the first five-yearly report was issued in 1996. Most states and some local governments now have SoE processes. As to the usefulness of SoE reporting, it is early days yet, given that SoE addresses long term and complex interactions between natural and human systems. In terms of how well SoE meets the requirements above, some comments can be made. It is not encouraging that a related national process in the 1970s lapsed, as did the first national SoE exercise in the mid-1980s. The whole point of SoE is that it is *ongoing*. A clear statutory mandate is crucial: the Commonwealth and most states now have this. Adequate resourcing on a permanent basis is also crucial, and this is a requirement not met in some jurisdictions. The basis of SoE in long term ecological monitoring is crucial. SoE collates *existing* information – a communication mechanism limited by available data. Long term monitoring of environmental change in Australia is poor and patchy, and monitoring of the impact and adequacy of policy and management interventions is particularly sparse. This is limited by inadequate resourcing, lack of continuity of measurements and indicators, and the poor scientific status of monitoring. As a communication mechanism, there is often a lack of clarity as to the purpose of SoE reports. Are they for the public, for on-ground managers, for politicians? Reports often fall between these stools. An institutional issue is independence. Especially regarding the 'Response' part of PSR, government-run processes find criticising government policy awkward.

The *Natural Heritage Trust* established under the Commonwealth NHT Act 1997 is a recent mechanism for expending proceeds of a telecommunications privatisation on resource management programs. The focus has been on community-based projects and 'on-ground works', particularly through community based programs such as Landcare (see below). While such expenditure is welcome – as well as popular politically with both governments and grant recipients – there are tensions against the requirements of adaptive institutions. One is that part of national environmental expenditure has been removed from the normal realm of

public finance to a peculiar, short term arrangement. There is no justification other than an expedient and political one for treating environment so differently from other policy fields. The 'Trust' itself is odd, being embodied in two government Ministers. This is a likely recipe for partisan political division, as well as not particularly inclusive in terms of public access to policy development. Another problem is the nature of community based approaches in the longer term, and this is dealt with next.

An institutional issue is independence. Government run processes will rarely criticise government policy.

Landcare is one of Australia's most internationally renowned achievements in ESD policy. In combination with other community-based programs (Waterwatch, Saltwatch, Dunecare, etc), thousands of local groups, encouraged and often funded by government, engage in monitoring, management and communication activities (I will use 'Landcare' as an abbreviation for all these). Community commitment has been remarkable. It may be that Landcare will be a turning point in Australian human settlement, but that will depend on the next few years. Landcare could become another tried-and-forgotten policy initiative. A key issue is short term funding: communities have shown their long term commitment, but support is generally only for a year or two. The concentration on on-ground works is important, but a lack of ongoing administrative capacity is leading to problems with many Landcare groups. There are limits to volunteerism. The trend of 'devolution' to community level matches a two-decades phase of neo-liberal economic and policy reform. The growth of Landcare has coincided with the withdrawal of public services and institutions from rural Australia, including traditional and valued land management extension services. Is this an abrogation of the duties of government? Lack of connection between devolved local management tasks and other levels of policy and management – regional, catchment, state and national – is of concern. While community-based programs are essential, there are many other types of and purposes for public participation in policy and management. Public participation in policy formulation at broader political levels has been treated variably in recent years (including a curtailing of the public's ability to object under planning law).

The last example is a generic one: *marketisation*, where resource management regimes and public institutions that have been reformed to conform to 'market principles'. This includes corporatisation, privatisation, contracting out, downsizing, and related phenomena.

This set of policy directions is often (too loosely) labelled ‘economic rationalism’. The roots of these policy changes lie in the dominant neo-liberal political philosophy of recent years, and resulted in a phase of profound institutional change in Australia. The implications for ESD have received little attention. The implementation of this broad policy of marketisation has been strong, vigorous, pervasive and has enjoyed bipartisan mainstream political support, in stark contrast to ESD. For example, microeconomic reform of the electricity sector has made greenhouse gas emission reduction more difficult through driving down prices for (some) users – simple neoclassical economic theory would have suggested this result. But single-minded policy reform did not cater for the management of multiple, more complicated and cross-sectoral policy impacts. Water policy reform driven by National Competition Policy has produced short term cost savings and windfall privatisation profits. Efficiency in water use through more realistic prices is emerging and is desirable environmentally, but whether this will continue to a significant degree remains to be seen.

Other social and environmental implications are unclear. The dominance of near term financial goals may have many implications. Possible casualties include integration of resource and environmental management across sectors, landscapes and catchments, and public participation when citizens are redefined as consumers and rules of commercial-in-confidence apply. Expenditure on long term environmental monitoring may be difficult to reconcile with financial imperatives. Managerialist approaches value generic principles above particular knowledge and context. For environmental sectors this is problematic given the unusual attributes of ESD problems. Australia’s rush to ‘marketisation’ has seen inadequate attention paid to the statutory framework within which reformed institutions attend to social and environmental issues, or where responsibility is or is not assigned elsewhere and resourced.

These examples illustrate the weaknesses as well as the strengths – in an ‘adaptive’ sense – of some institutional and policy arrangements. The second set of arrangements comprises six cases that fulfil more of the requirements. These can be thought of as ‘encouraging institutions’ from which we can draw lessons. It must be stressed that these six are not perfect – far from it – and certainly have not ‘solved’ their suite of problems. However, they were or are *believable attempts* and serve as case studies of ‘ESD institutions’.

Case study 1: Murray-Darling Basin

Intergovernmental management of the River Murray began in 1915, and the River Murray Commission sought to balance the requirements of the different states for many decades. In the 1980s, a basin-wide and multi-sectoral approach was put in place through the Murray-Darling Basin Agreement. The Agreement involves complementary state-Commonwealth legislation, the Murray-Darling Basin (Ministerial) Council, MDB Commission (government representatives are the Commissioners) and staff, and a Community Advisory Council. Research and policy development have dealt with irrigation, drainage, nature conservation, salinity and so on. The initiation of a 'cap' on water diversions in the Basin in the mid-1990s stands as a milestone in the history of Australian resource management. While the Basin still has severe environmental problems, the situation would now be worse – at least in terms of information and management capacity – had governments not cooperated. Unfinished business remains largely because of the tardiness of governments, rather than being the fault of the Commission or CAC. The MDB arrangements should be viewed as a good start, especially in an inter-jurisdictional sense; to be learned from, developed, and used to inform other institutions. (Further details: Powell, J.M. 1993. *The emergence of bioregionalism in the Murray-Darling Basin*. Canberra: MDBC.)

Case study 2: Australian Emergency Management Institute

Emergency management, like environmental management, is a policy field divided across jurisdictions, sectors, issues and agencies. Like sustainability, it answers environmental, social, cultural and economic imperatives, and copes with risk and uncertainty. In the Australian federal system, responsibility lies largely with the states, but the Commonwealth plays a coordinating and resourcing role. Unlike ESD, the Commonwealth has for many years taken this lead role seriously, encouraging emergency management to evolve as an informed, responsive and coordinated field of policy and management.

Emergency Management Australia, an agency located in the defence portfolio, coordinates and resources emergency management across Australia. Through various national committees, the states and territories play a key role. EMA operates the Australian Emergency Management Institute at Mt Macedon in Victoria, as a training and information facility. In collaboration with others, it runs training courses, develops materials, manuals and competency standards, and organises and hosts policy development discussions. The Institute has been responsive to new issues, and has played a strong role in a trend from a top-down, traditional 'preparedness and response' approaches towards risk management and a focus on community capacity. It operates a library and information service for practitioners around the country, and publishes the respected (and free) *Australian Journal of Emergency Management*. This is an invaluable

forum for discussion of strategic perspectives and shorter term practical actions. These services are funded by the Commonwealth, in the interests of coordination and effectiveness across jurisdictions and sectors (natural hazards do not respect boundaries any more than environmental issues). The costs and benefits of good emergency management are very immediate and politically damaging (people die, homes are destroyed), however, the long term costs of ignoring ESD problems are equally significant. Arguments that a strong Commonwealth role in ESD are at odds with 'state rights' do not hold against this example from a comparable policy field. (Further details: Australian National Audit Office. 2000. *Commonwealth emergency management arrangements*. Canberra: AusInfo.)

Some political interests do not value public institutions that unsettle the *status quo*, focus on the longer term, inform the public, develop new insights and are independent.

Case study 3: Land and Water Resources Research and Development Corporation

The *Primary Industry and Energy Research and Development Act 1989* (Commonwealth) enabled a number of R&D corporations. These are mostly commodity-based (forests, grains, dairy, etc.) and jointly funded by the Commonwealth and industry. The 'leftover' task of R&D for sustainable resource management was given to LWRRDC, now known as Land and Water Australia, and funded solely by the Commonwealth. Without the coordination envisaged by the ESD process' recommended ESD research council, the Corporation has become the *de facto* ESD R&D corporation. Charged with designing and funding water, land and vegetation-related R&D (not urban or marine), it has become a major influence and developed a world class reputation. With an enabling statute, an ESD-relevant mandate, a representative board and a history of critical review of its R&D programs, Land and Water Australia qualifies as an adaptive institution. In 1999 it established – in the absence of efforts by others – a social and institutional R&D program, taking the lead in that crucially important area. While impressive and making a difference, the Corporation is limited by its mandate and budget, and serves to indicate the lack of a larger and more broadly scoped R&D presence at the national scale. (Further details: Mobbs, C. and Dovers, S. (eds). 1999. *Social, economic, legal, policy and institutional R&D for natural resource management*. Occasional paper 01/99. Canberra: LWRRDC.)

Case study 4: Bureau of Immigration, Multicultural and Population Research

The Bureau of Immigration Research was established in 1989 by the Commonwealth, to provide information and fund research for immigration policy. By the time its functions were reduced to a statistical departmental rump by the incoming Coalition government in 1996, it had expanded in scope as the Bureau of Immigration, Multicultural and Population Research and extended into research on population-environment linkages. The Bureau provided reliable population and immigration data and was independent of government. Neither before nor since has there been such quality of information in this important policy area. The Bureau maintained quality through independent refereeing and active communication of its research. It organised immigration outlook conferences, a key policy forum for interested groups. It was informed and informing, in a difficult and sensitive area.

The BIMPR was criticised for being 'pro-immigration' by commentators advocating population control through immigration cuts. However, the Bureau supported a range of work, including an expanding portfolio of environment-related research not supported by other agencies, such as on population-environment-economy modelling. That indicated flexibility. The potential of the Bureau in this area was strangely discounted by some of its critics: uncertainty and ignorance are not regretted by all players in policy debates. Soon after the demise of the Bureau, Australia descended into a rancorous, poorly informed debate over population and immigration, just when its expertise was most needed. The issue of population-environment linkages has been poorly attended to in Australia. It needs to get beyond simplistic arguments about gross numbers of people, towards consideration of *per capita* impact on the environment, internal migration, regional population decline, tourism, and differentiated environmental resilience. As well as an informing organisation such as the Bureau, there is scope for the basic institutional provisions afforded to other major policy issues, such as a ministerial council and a broadly based consultative body (like the now-defunct National Population Council). (Further details: Dovers, S. 1998. Dimensions of the Australian population-environment debate. *Development Bulletin*. 41: 50-53.)

These case study institutions are not perfect and certainly have not 'solved' their suite of problems, but they are believable attempts.

Case study 5: Victoria's Land Conservation Council

Before having its independence and scope for public consultation reduced by a 1997 statute by the Kennett government, the LCC was one of Australia's longest standing and most successful environmental institutions. Established in 1972 in the wake of the Little Desert dispute, it informed many policy decisions. It operated regional-scale assessment and options development, with scope for community input. Amongst other things, it was crucial to the establishment of a better-than-average nature conservation estate. For many years, the Council stood as an internationally remarkable institutional initiative in solving complex resource allocation issues. By the late 1990s there was need for reform – expectably after twenty-five years – but to modernise and strengthen, not to weaken. As with the demise of the Resource Assessment Commission (below), the Council's lessening under managerialism and neo-liberal economic philosophy stands as a warning. Even good institutions with a track record and a statutory basis need to be defended against those whose interests are not served by persistent, informed institutions. (Further detail: Christoff, P. 1998. Degreening government in the Garden State: environmental policy under the Kennett government. *Environmental Planning and Law Journal*. 15: 10-32.)

Case study 6: The Resource Assessment Commission

The RAC was established in 1989 to support less partisan and more informed decisions over major resource issues. Before its abolition in 1993, the Commission undertook three inquiries – mining at Coronation Hill, forests, and the coastal zone – reporting to the Prime Minister. Headed by a Commissioner, a former judge, for each inquiry it had two other commissioners, an ecologist and an economist. It had a research capacity as well as utilising consultants, and engaged in extensive consultation. The Commission was instructed to undertake inquiries in the spirit of ESD: integrating environmental, social and economic concerns; methodologically diverse; consultative; and gathering and interpreting information. It was a rare, explicit ESD institution. It produced rigorous assessments and tested innovative techniques. Its abolition after only four years was not due to reasoned evaluation: none was undertaken and indeed surveys found widespread respect for its work. Nor was there a lack of potential inquiries. Various reasons have been proposed for the RAC's demise:

- a change of Prime Minister (Hawke to Keating) and of policy style;
- impatience with detailed inquiry, and a preference for partisan lobbying;
- bureaucratic sensitivities and jealousies;
- unreasonable expectations that yes/no answers could be provided;

- animosity by some sectors who felt that their interests had been not served;
- unease at the exposure of the inevitably political nature of decisions, even after exhaustive assessments (especially with the Coronation Hill case); and
- a convenient target for cost-cutting.

Much blame can be assigned to the inappropriate Coronation Hill reference; the point of the RAC was to support policy making in sectors and broad areas, not to resolve contested issues. One of the few stated reasons was that the then Industry Commission (now Productivity Commission) could undertake such inquiries. While the Productivity Commission has in recent times produced very respectable reports in the area of ESD, it does not have the depth of skills and the ESD-oriented mandate that the RAC had. If governments are to match ESD rhetoric with institutional development, there is scope for a qualified and specialist body such as the RAC. (Further detail: Stewart, D. and McColl, G. 1994. The Resource Assessment Commission: an inside assessment. *Australian Journal of Environmental Management*. 1: 12-23.)

These six cases are not the only possible examples, but they are among the most interesting. We should note, however, that two (the RAC and BIMPR) have been demolished, and another (the LCC) weakened. Why? The reasons are complex, but some political interests do not value public institutions that unsettle the *status quo*, focus on the longer term, inform the public, develop new insights and are independent. There are tensions between the requirements of adaptive institutions for ESD, and modern political ideologies and bureaucratic fashions that favour market-oriented reform, less inclusive policy debate, and withdrawal of the state. These tensions should be a topic of major public debate.

Given that the cases above are only a selection, the third set of existing arrangements with potential against the requirements of adaptive institutions can be noted, simply to indicate broader possibilities.

If we are still settling Australia, part of that must be a settlement – psychologically and legally – with thousands of years of indigenous settlement. That is a political view and a moral stance. Practically, indigenous Australian land management is important, given that such management is responsible for some 15% of the continent and in our uncertainty we must be open to a variety of experiences. Two examples are worthy of note. The Cape York Heads of Agreement saw indigenous people, pastoralists, miners and environmentalists agree to broad land use

futures for their region. This was a splendid example of cooperation and accorded with the implicit instruction of the High Court's Wik decision: go forth and negotiate. This initiative was tragically destroyed by populist politics. The other example is the institution of indigenous Land Councils. In difficult circumstances, these are regionally scaled, multi-sectoral and integrative, discursive and, importantly, democratic (more so than, for example, a catchment body whose executive is hand-picked by a minister). They bear watching as an institutional experiment in community development, governance and land management, as do the arrangements associated with the Aboriginal and Torres Strait Islander Commission, and local indigenous community councils.

Institutional arrangements that cross government jurisdictions are at present popular, necessary, and problematic. Local areas, regions and catchments are in some ways more ecologically logical scales than imposed political boundaries. But arrangements at these scales usually lack political, legal and administrative 'reality' and can be weak and easily forgotten. Catchment management arrangements, such as Victoria's Catchment Management Authorities, deserve monitoring as potentially adaptive institutions. So do some recently formed regional organisations, such as in the Lake Eyre Basin. Local government has untapped potential, especially when municipalities work together through various mechanisms. It can provide local community-based efforts with an organisational base in a democratically elected level of government. The linkages between local government and groups such as Landcare are not well developed. The potential for simple and effective arrangements between governments is illustrated by the cooperative management of the Australia Alps under a Memorandum of Understanding between Victoria, NSW and the ACT.

Whatever the actual arrangement, regional and catchment scale organisations need to be designed with the requirements set out in Box 2 in mind, with a emphasis on persistence, legal status, resourcing and coordination with other organisations. Too many past regional initiatives have lacked a clear mandate and resource base, and consequently have been short lived and ineffective. This presents a challenge, as it implies some degree of transfer of power, as well as responsibility, away from state and federal governments. In recent times responsibility, rather than power, has been happily distributed by governments, while power has been concentrated in the executive.

Another area demanding attention is the law, at once a complex set of institutions itself, and a primary means of shaping and directing institutions. In recent years the law has been

derided as inflexible and unsuccessful in ensuring environmental sustainability – law as strict regulation only. Whether regulation has failed in providing environmental protection is one question, but so too is whether implementation was weak. No single policy instrument will ever be sufficient by itself, whether that be a regulation, a market mechanism, a negotiated resource allocation, or an education campaign.

But strict regulation is only one part of the law. The law is crucial to institutions: all institutions require legal status, and the nature of that legal basis has received little attention. Statutes can be used to create and instruct institutions. Statutory objectives – including ESD principles – shape the nature of decision making, but are often poorly articulated. ESD principles should guide decision makers in an operational sense and be testable in the courts – adherence should not be optional. The insertion of a statutory ‘duty of care’ in land management legislation, as argued by the Productivity Commission and others, could be significant. Statute law can enable public participation and create transparency. It can also be an impediment where it confirms unsustainable behaviours. Common law is adaptive and resilient; it evolves but is constrained by precedent. The common law has been less important in the environmental arena in Australia, but the overturning of the doctrine of *Terra nullius* in the Mabo case demonstrates its significance. With a cumulative body of jurisprudence, some ESD principles may even achieve recognition in common law.

Finally, the institutions of parliamentary democracy should not escape scrutiny. This is a topic beyond the scope of this paper, but one example can be highlighted. Parliamentary committees are usually only visible when they engage in headline-grabbing conflicts. The bulk of committee work can be very different. Committees, especially in the federal Senate where control by one party is lacking, have had an impressive record against the requirements of adaptive institutions. They can breach partisan divides and focus on longer term issues, gather and synthesise information and are open to community input. Some committee reports have been prescient and sound, such as on greenhouse, sea transport and the coastal zone. While participatory democracy rather than our current representative democracy is favoured by many commentators, it is unlikely that we will reform our system of governance profoundly. Better use of the existing mechanisms would be sensible.

Across all these examples an important theme emerges. Institutions mostly learn and change slowly. An adaptive approach needs persistence and patience as well as active experimentation; instant gratification is rare. ‘Institutional time’ is more similar to ‘ecological time’ –

slow evolution and strong path dependency, punctuated by thresholds and reformations – than it is to economic or political time. We have had intergovernmental institutional arrangements in the Murray-Darling Basin for over eight decades, but the present arrangement has been in place for only a little over a decade. River basin manager Kai Lee warned that our working lives are exceeded by the time span of processes in natural systems. It took two centuries before the doctrine that had disenfranchised Indigenous Australia – *Terra nullius*, land empty of law – was overturned by the High Court, and settlement of that seems still far off. The RAC lasted less than four years, which is thoroughly insufficient for assessing whether an institution, organisation or approach is working. The BIMPR was similarly cut down in its infancy, while the LCC proved its worth over a quarter of a century before being emasculated rather than positively reformed. There are tensions between the long time frames of natural systems and their management, and the urgency, impatience and amnesia of our politics. Institutional reform for the longer term is demanded by that tension but at the same time made less likely. That duality begs an institutional reform agenda both politically feasible and suited to the longer term challenge.

6. Ways forward

While encouraging institutional arrangements exist, they are insufficient to achieve an ecologically sustainable and humanly desirable future. Sustainability does not have parity with other policy fields, especially economic policy. It is marginal and fragmented across jurisdictions, government portfolios and agencies, sectors and issues, and over time. As well as appreciating the strengths these ‘encouraging’ examples – and their potential, because they are not perfect – we need to consider deeper changes. Otherwise, responses will continue to be *ad hoc*, with many small changes of insufficient overall impact. Such changes will need to match the principles and attributes developed earlier, and I will maintain the rule of keeping propositions within existing political, administrative, legal and constitutional parameters. As an island continent and nation, a strongly national approach is necessary, not in a rigid way, but to encourage cohesion, coordination and learning. Also needed is a longer term commitment to organisational and ecological scales (local, catchment and regional).

Six reforms are suggested below to illustrate some possibilities and indicate how different purposes can be met through linked reforms. Of the core principles and requirements of adaptive institutions developed earlier, the reforms suggested below especially attend

We need to consider deeper changes. Otherwise, responses will continue to be *ad hoc*, with many small changes of insufficient overall impact.

pervasive uncertainty, the need for a legal basis, variable spatial and temporal scales, integration across issues, sectors and jurisdictions, lack of accepted methods and policy approaches, and participation. Some of the more obvious linkages between them are noted.

- First, a *wide-ranging legislative review*, at Commonwealth and state/territory level, to recommend changes to laws that hinder or do not promote ESD principles. This would attend to all relevant areas (health, finance and economics, trade, transport, etc) and be undertaken by a body with both legal and ESD-specific expertise and involve community input. Lest this be thought outlandish – some would think so – it would simply mirror the National Competition Policy review of some 1,800 Australian laws in a search for ‘anti-competitive’ provisions. Let us also attend ‘unsustainable’ provisions in our body of law. This review would recommend particular legislative changes as well as identify

the need for more systemic change or for omnibus statutes. It would identify how adherence to ESD principles and accounting for their implementation could become an obligations on all portfolios and agencies.

- Second, an ongoing and broadly based discourse is necessary, involving three levels of government, the private sector and community groups. The ESD working groups in the early 1990s showed the potential. A National Commission or Council for ESD, enabled by legislation, should be established to promote discussion of problems and responses. It would report, publicly and annually, to all parliaments. Importantly, as well as maintaining inclusive policy debate, an NCESD should be given substantive roles and resources. Possible statutory roles include: coordination of strategic R&D investments (via or as well as an ESD R&D corporation); independent undertaking of national state of environment reporting; coordinating state, regional and local SoE reporting; providing advice to an intergovernmental Ministerial Council on ESD; and preparing national reports on progress in achieving ESD.

Six interrelated reforms are suggested to indicate how different purposes can be met through linked institutional reform.

- Third, such an inclusive, national scale body is quite different to the more common idea of a Commonwealth commissioner for the environment. All jurisdictions require a mechanism for ensuring implementation of ESD across sectors and portfolios; a commissioner is one mechanism. Another is Offices of ESD in all first ministers' departments, as recommended by the 1990-92 ESD process. More important than the mechanism is the purpose. As this was being written, the roles of the proposed Victorian commissioner for ESD were the subject of discussion. A core role for an office or commissioner would be the statutory power to call for, assess and publicly report on the implementation of ESD policy by all departments and agencies within a jurisdiction.
- Fourth, the fragmented policy and management field of ESD needs greater coordination to allow learning and development of policy and management options. This is required across jurisdictions and sectors (land, water, pollution, biodiversity, forests, fisheries,

etc). The Australian Emergency Management Institute (above) serves as a model. An Australian Institute for ESD, under the umbrella of the NCESD, would not have policy making powers. Rather, it would: enable strategic policy and management analyses; gather, synthesise and communicate policy and management experiences; maintain an information service for government agencies, community groups and private sector environmental managers; and undertake training programs.

- Fifth, the commitment shown by *local communities* through Landcare and other groups needs longer term support. If we are serious about community-based approaches, then it is time to ‘institutionalise’ these as a part of how we manage environments. Community groups should not be overly directed by government funding or legislation, other than to ensure that their activities are accountable and consistent with ESD principles. Rather, community-based resource and environmental management groups (local, catchment or regional) should be enabled by government funding – in the long term – and empowered by legislation that gives them status. Short term program funding will be turned on and off: that is a government’s right. But groups need the guaranteed financial and human resources and the status to know they will be still adapting a decade down the track, not wondering if they will get money next year.
- Sixth, while better use of existing information, strategic R&D needs and policy monitoring are attended to above, the poor and patchy nature of *long term ecological research and monitoring* is not. ‘Ecological’ is used broadly here, including biota as well as ecological processes and fundamental data needs such as stream gauging or soil condition. While coordination of existing programs would be a significant advance, there is need for a persistent, national capacity in long term monitoring of conditions across several hundred linked, maintained and instrumented sites. Without significantly increased resources and especially trained, regional staff, policy and management will continue to be based on inadequate information. The aim would be to see the ecological dimension of ESD supported by data streams comparable in status and permanence to those underpinning economic and social policy (eg. national accounts, census, monthly population survey, commodity trade data). Interjurisdictional coordination would be essential to this.

These six suggestions are a sample of institutional reforms targeting particular purposes: other reforms and purposes can be identified. Usually a number of institutional models can

be suggested to attend the same need and the choice is never clear, and different institutional reform agendas become connected. Two examples can illustrate this.

First, it is important that alternative (ie. not standard neo-classical) economic analyses are incorporated into major policy processes. As Mick Common, an economist, put it, we need an economics that takes seriously what we know of natural systems and human psychology – the dominant neoclassical economic paradigm does not. A Bureau of Ecological Economics at the Commonwealth level, attached to the environment portfolio, would go a long way to attending this need. It would undertake some of the same tasks that a resurrected RAC might, extend the Australian Bureau of Statistics' recent work in natural resource accounting into operational, decision making contexts, and explore priorities identified by an ESD R&D corporation. This need could also be served by altering the mandate and functions of mainstream economic agencies such as Treasury, the Productivity Commission and the Australian Bureau of Agricultural and Resource Economics. Both strategies are feasible, complementary and would have a very positive impact. The second example is the identification, development and seed funding of 'green technologies' and more sustainable industrial processes. This could be attended by a number of mechanisms, alone or in combination, such as an ESD R&D corporation, a government-industry-NGO task force, special industry assistance programs, cooperative research centres, and so on.

Sustainable development is the “universally agreed goal of human progress”. Such a goal demands strong institutional expression.

Taken together, the impacts of reforms such as those above would be very positive. They have the potential to involve all sectors of society in a mutually informing fashion, and are consistent with the character of sustainability as a policy challenge. Other policy fields enjoy similar institutional and informational underpinnings already. These suggestions would in various ways – along with reforms noted under the case studies above – fulfil some of the roles performed in other fields of public policy by bodies such as the Australian Bureau of Statistics, Productivity Commission, Australian Institute of Health and Welfare, National Health and Medical Research Council, or Emergency Management Australia.

One day, sustainability might enjoy parity on the playing field of policy debate and implementation with other imperatives, especially narrowly defined economic policy. It might even realise its potential to integrate social, environmental and economic aspirations – as the author Paul Harrison put it, sustainable development is the universally agreed goal of human progress. Such a big goal demands strong institutional expression, but we are far from that. Opinions will differ as to the likelihood of such expression occurring soon. Certainly, the political strength of the ecological and social rationalities behind the idea of sustainability pale against much stronger rationalities and trends. That will be hard to overcome, and will not happen while sustainability remains weak institutionally. This paper has suggested that the broad directions we need to take are clear enough, and that some important institutional mechanisms are quite feasible. More needs to be done than I have suggested here, but that will not occur if we do not create the basic institutional capacity.

Further Reading

PAGE 32

This paper draws on research by the author and colleagues over several years. The author acknowledges contributors to the book 'Environmental history and policy: still settling Australia', and to the participating researchers in the Land and Water Australia-funded project 'Processes and institutional arrangements for resource and environmental management: Australian experiences'. The following sources provide more detail.

Dovers, S. 1995. Information, sustainability, and policy. *Australian Journal of Environmental Management*. 2: 142-156.

Dovers, S. 1997. Sustainability: demands on policy. *Journal of Public Policy*. 16: 303-318.

Dovers, S. and Mobbs, C. 1997. An alluring prospect? Ecology, and the requirements of adaptive management. In: Klomp, N. (ed). *Frontiers in ecology*. Amsterdam: Elsevier.

Dovers, S. and Gullett, W. 1999. Policy choice for sustainability: marketisation, law and institutions. In: Richardson, B. and Bosselman, K. (eds). *Environmental justice and market mechanisms: key challenges for environmental law and policy*. London: Kluwer Law International.

Dovers, S. 1999. Institutionalising ecologically sustainable development: promises, problems and prospects. In: Walker, K. and Crowley, K. (eds). *Australian environmental policy 2: studies in decline and devolution*. Sydney: University of NSW Press.

Dovers, S. 1999. Adaptive policy, institutions and management: challenges for lawyers and others. *Griffith Law Review*. 8: 374-393.

Dovers, S. (ed). 2000. *Environmental history and policy: still settling Australia*. Melbourne: Oxford University Press.

Handmer, J. and Dovers, S. 1996. A typology of resilience: rethinking institutions for sustainable development. *Industrial and Environmental Crisis Quarterly*. 9: 482-511.

Other sources used and relevant further reading:

Cardew, R. and Fanning, P. 1996. *Population-environment-economy relationships in the Wollongong region: a framework for analysis and policy development*. Canberra: Australian Government Publishing Service.

Common, M. 1995. *Sustainability and policy: limits to economics*. Melbourne: Cambridge University Press.

Curtis, A. and Lockwood, M. 2000. Landcare and catchment management in Australia: lessons for state-sponsored community participation. *Society and Natural Resources*. 13: 61-73.

- Dodds, F. (ed). *Earth summit 2002: a new deal*. London: Earthscan.
- Fisher, T. 2000. Lessons from Australia's first practical experiment in integrated microeconomic and environmental reform. In: Productivity Commission. *Microeconomic reform and the environment*. Canberra: Ausinfo.
- Goodin, R.E. 1996. Institutions and their design. In: Goodin, R.E. (ed). *The theory of institutional design*. Cambridge: Cambridge University Press.
- Gunderson, L.H., Holling, C.S. and Light, S.S. (eds). 1995. *Barriers and bridges to the renewal of ecosystems and institutions*. New York: Columbia University Press.
- Hamilton, C. and Throsby, D. (eds). 1998. *The ecologically sustainable development process: evaluating a policy experiment*. Canberra: Academy of the Social Sciences.
- Harrison, P. 1992. *The third revolution: population, environment, and a sustainable world*. Harmondsworth: Penguin.
- Henningham, J. (ed). 1995. *Institutions in Australian society*. Melbourne: Oxford University Press.
- Industry Commission. 1998. *A full repairing lease: inquiry into ecologically sustainable land management*. Canberra: Australian Government Publishing Service. (Note: the Industry Commission was restructured as the Productivity Commission in 1999.)
- Lee, K.N. 1993. *Compass and gyroscope: integrating science and politics for the environment*. Washington DC: Island Press.
- Productivity Commission. 1999. *Implementation of ecologically sustainable development by Commonwealth departments and agencies*. Canberra: AusInfo.
- United Nations. 1992. *Agenda 21: the United Nations programme of action from Rio*. New York: UN.
- Victoria, Public Accounts and Estimates Committee. 2000. *Follow-up inquiry into environmental accounting and reporting*. Issues paper 4. Melbourne: Public Accounts and Estimates Committee.
- World Commission on Environment and Development. 1987. *Our common future*. Oxford: Oxford University Press.
- Yencken, D. 2000. *Sustainable Australia: refocusing government*. Tela paper 3. Melbourne: Australian Conservation Foundation.

About the author

Stephen Dovers

Dr Stephen Dovers is a Fellow with the Centre for Resource and Environmental Studies, Australian National University, and has been researching the policy and institutional dimensions of sustainability for more than a decade. He is the author of numerous articles, papers and reports and he has edited the books *Sustainable Energy Systems* (Cambridge 1994), *Australian Environmental History* (Oxford, 1994) and *Environmental History and Policy: Still Settling Australia* (Oxford, 2000).

The first Tela paper, Health and Environment, written by Charles Guest, Bob Douglas and Rosalie Woodruff from the Australian National University and Tony McMichael from the University of London, was launched by Sir William Deane, Governor General of Australia, in June 1999, who said of it:

This first paper admirably fulfils expectations for the Tela series; comprehensive, learned, accessible, reasoned in its approach, "popular" in the best sense of that word, as embracing the interests and needs of the broad community. And I might add, a global and broad visioned approach.

Sir William Deane

Subsequent papers published are:

- 'One Earth: Social and Environmental Justice' by Nicholas Low and Brendan Gleeson
- 'Sustainable Australia: Refocusing Government' by David Yencken
- 'Ecological Tax Reform: Using the Tax System to Protect the Environment and Promote Employment' by Clive Hamilton, Kai Schlegelmilch, Andrew Hoerner and Janet Milne
- 'Climate Shopping: Putting the Atmosphere up for Sale' by John Byrne and Leigh Glover
- 'Transport and the Environment' by Patrick Moriarty

All papers are available on:

www.acfonline.org.au/publications/tela/intro.htm

About the Tela series

The Tela series is devoted to the exploration of the relationships between environment, economy and society and the ways in which the economy and society may need to change to achieve ecological sustainability in the 21st century. Tela, a web in Latin, has been chosen as the name for the series to illustrate the connectedness of the physical world and human societies.

Individual papers in the series are being written by well-known Australian and international scholars and scientists for a general readership. They aim to generate debate about key issues that will confront all societies in the 21st century.

Forthcoming papers in the Tela series are being written on:

- education and the environment
- the business of biodiversity.
- business and the environment
- media and the environment
- universities and the environment
- households and consumers and the environment
- law and the environment
- indigenous people and the environment
- trade unions and the environment