On the Contribution of Environmental History to Current Debate and Policy

STEPHEN R. DOVERS [1]

Centre for Resource and Environmental Studies
Institute for Advanced Studies
The Australian National University
Canberra 0200, Australia
Email: dovers@cres.anu.edu.au

ABSTRACT

This article proposes a strong role for environmental history in informing current policy and debate in the policy field of sustainability (or, sustainable development). The policy agenda of sustainability is noted, and the unique attributes of these policy problems identified. A three part 'typology of relevance' is proposed, comprising general historical perspectives, ecological and human baselines, and direct policy and institutional lessons. The idea of more immediate lessons is discussed further, with some indicative examples drawn from Australia. Environmental history is argued to have potential as an antidote to policy amnesia and *ad hocery*. Furthermore, if environmental history is to prosper, then environmental historians must construct explicit connections with pressing current issues.

KEYWORDS

Australia, environment, history, policy, sustainability

1. INTRODUCTION

This article considers the potential of environmental history to inform contemporary challenges of sustainability and resource and environmental management, both in a general sense, and in the more particular sense of specific policy and institutional tasks and problems. Moreover, the future prosperity and vibrancy of environmental history, in a world beset by pressing challenges and where the crisis of the humanities is deepening, will depend on it exhibiting an explicit purchase on important policy questions. The pressing issue of the

Environment and History **6** (2000): 131–50

sustainability of human use of the environment demands less of traditional disciplines concerned with their own internal matters than on emerging interdisciplinary alliances, one of which potentially – but only potentially – is environmental history.

In a recent article in this journal, Uekoetter (1998) commented on perceived difficulties in environmental history, and proposed an 'organisational approach', entailing the examination of 'the process of organising responses to perceived environmental problems'. Perception, problem definition and policy change become targets of the environmental history inquiry. This is alluring, in that it connects rather well with current issues of sustainability and human-environment relationships – renegotiating and organising our relationships with the environment. There is something in common between Uekoetter's proposition and the focus on cultural adaptation to environmental change in Boyden's (1987) biohistorical view. Here, though, I would prefer the term 'institutional approach', for both its closeness to present preoccupations with institutional arrangements and its broader and more universal capture of societal structures and processes.

To explore the possibilities further, it is first necessary to establish what I take environmental history to be, and characterise current issues of sustainability and resource and environmental management. Elsewhere, I have defined environmental history, informally, as the task of explaining why the environment we live in is like it is, and, more formally, as (Dovers 1994a):

> the investigation and description of previous states of the biophysical environment, and the study of the history of human impacts on and relationships with the non-human setting. Environmental history seeks to explain the landscapes and issues of today and their evolving and dynamic nature, and from this to elucidate the problems and opportunities of tomorrow.

Like most others, I view environmental history as only loosely defined and bounded, eclectic, fluid, and absolutely unable to be dominated by one or even a few disciplines. As Powell (1996) emphasised, environmental history cannot be allowed to be a sub-discipline; it must be an interdisciplinary arena. The following themes and tasks for environmental history are crucial, and support the need for multiple perspectives:

- explaining natural-human system interactions over time;
- embracing and explaining complexity, in a historically and especially ecologically informed move away from presentism, reductionism and simplification;
- accepting (and even revelling in) methodological impurity as we seek to integrate vastly differing temporal and spatial scales, methodologies, sources of evidence, and styles of inquiry and communication;

- adding the essential 'how, who and why' to the 'what and when' by explaining the contexts of environmental change; and
- further to this, bringing environmental history closer to current preoccupations by explicitly seeking to expose culpability and relevance.

Such tasks cannot be tackled by historians alone, even in alliance with ecologists, but calls upon law, economics, public policy, anthropology and a range of natural sciences, to name a few, in constantly shifting and invigorating combinations according to the inquiry at hand. In attending these themes, what differentiates environmental history from other fields of inquiry, most notably historical geography? (For an Australian discussion, see Powell 1996.) One answer, and one highly pertinent to the discussion here, is that environmental history speaks more clearly to current issues than historical geography, just as environmental 'studies' and 'sciences' do compared to geography, to the cost of geography as a discipline and profession in recent years. If there is anything in this claim, then environmental history needs to be explicit about it connection to current concerns, which is the point of what follows (see further, Dovers, in press).

What is offered here is a perspective on the last theme listed above, *relevance*, which I have advanced in a speculative way elsewhere (Dovers 1994b). Connections are sought between the notion of relevance in environmental history with work on the demands placed on policy processes and institutional arrangements by modern concerns. The next part of the article (section 2) briefly notes the essential parameters of the policy field of sustainability, paying attention to the peculiar attributes of associated policy problems. Section 3 proposes three different forms of relevance; general historical perspectives, human and ecological baselines, and policy and institutional lessons. Then the idea of policy and institutional lessons is expanded on in section 4 in the context of a recent Australian history of policy amnesia and *ad hocery*.

Four qualifications are necessary on what follows. First, while arguing the case of relevance for environmental history, I do not see this as a necessary precondition for its pursuit as an academic enterprise; it is a secondary benefit. The central stricture of modern economic fundamentalism as it impacts on intellectual life – that things must be of tangible value in the near term to be worthwhile – is rudely rejected. Environmental history, like other intellectual and cultural pursuits, is worthwhile in itself. I merely seek to alert environmental historians to an area of 'added value'. Second, considering relevance to contemporary policy brings with it the issue of 'how far back' one has to go to be doing environmental *history*; ten, fifty, a hundred years? This may become clearer as we proceed. Third, this is written from an Australian perspective, in terms of themes, experiences and history of both environment and policy. I hope that the arguments might apply elsewhere, and would be interested to see them tested in different contexts.[2] It may be that *ad hocery* and policy amnesia are

peculiarly Australian, though I doubt it. Even so, Australia is relatively advanced in experimenting with newer policy approaches – market mechanisms, community involvement, cross-jurisdictional statutory management arrangements, etc., – so what Australia has forgotten or failed to entrench may be worth noting. Fourth, this article should be viewed as a tentative move on a new front. Its purpose is to suggest potentially fruitful connections between aspects of environmental history, environmental management, sustainability, and public policy.

2. HISTORY AND SUSTAINABILITY

We need to be clear that the contemporary construction of the problem is not 'environmental issues', but sustainability (*aka* sustainable development, ecologically sustainable development in Australian policy). [3] Some important distinctions must be kept in mind in this regard, which are increasingly apparent to those involved in the environmental policy game, but not perhaps to environmental historians. Indeed, a service by environmental historians may be to critique the common assumption that modern problems of environmental change are bigger, worse or more systemic than those dealt with in the past, especially relative to the informational and institutional capacities then and now. Consider the following simple typology of policy problems in sustainability based on a detailed identification of specific problem attributes (fully discussed in Dovers 1995a):

- *Micro-problems*. These are day-to-day problems in environmental management: spatially and temporally discrete; not overly complex or fraught with uncertainty; not requiring large resource commitments or the development of new technologies or policy processes; and, if particularly topical, then only on a local or sectoral scale. These problems may be resolved on a case-by-case basis, through existing institutional arrangements and policy processes such as environmental impact assessment, development approval and effluent licensing.
- *Meso-problems*. These problems are significant and may be prominent on the public agenda, but do not pose systemic threats to the present pattern of production and consumption, or overwhelming challenges to existing policy processes. Alternatively, a policy problem involving a process or decision affecting a large number of micro-problems would fall into this category (eg. overarching impact assessment procedures), as would major issues fully addressable within one country. Examples at the national scale in Australia would include urban air pollution and fisheries management.
- *Macro-problems*. These are multi-faceted problems, complex, fraught with uncertainties, spatially and temporally diffuse, highly connected to other issues, and threatening major possible disruption of human and natural

systems. Their underlying causes are deeply embedded in patterns of production, consumption, settlement and governance. They are often amalgams of lower order issues, classified together on scientific and policy agendas due to cause and effect linkages that demand integrated research and policy approaches. Globally, examples of particularly *cumulative* macro-problems include climate change, biodiversity loss, desertification and growth in human populations and rates of resource consumption (these would also be macro-problems at any national scale).

The modern environmental policy agenda of the 1960s–1980s was dominated by micro- and meso-problems. The sustainability agenda of the 1990s is dominated by meso- and especially macro-problems. The 'meta-policy field' of sustainability is a new and substantially different problem construction, subsuming traditional, bounded environmental problems, and integrating ecological concerns with social and economic ones. Sustainability proposes that the relationship between human and natural systems is neither ecologically viable nor humanly desirable, and questions lifestyles, systems of governance, and patterns of production, consumption and settlement (e.g. World Commission on Environmental and Development (WCED) 1987; Harrison 1992; Meadows et al. 1992; Myers 1993). It is, potentially, a profoundly revolutionary notion, but is riddled with contradictions and questions (Redclift 1987; Dovers and Handmer 1993). The modern idea of sustainability arose in a substantive policy sense over the five years between the 1987 'Brundtland Report' (WCED 1987), and the 1992 UN Conference on Environment and Development, which produced the Rio Declaration and Agenda 21 (UN 1992). The other key elements of the international meta-policy setting are the 1992 Convention on Biodiversity, the 1992 Framework Convention on Climate Change, the 1994 Convention to Combat Desertification (see *International Legal Materials*, volumes 31 and 33), and a statement of forest principles (UN 1992). The agenda of sustainability is generally taken to include: resource depletion and management; pollution and wastes; population; climate change; biological diversity; food security; poverty and human development; and global security.

Sustainability policy states core principles, including: reconciliation of equity between current and future generations; integration of environmental, social and economic policy; recognition of the critical importance of biological diversity and ecological processes; the necessity of a 'precautionary' approach in the absence of sceintific certainty; global dimensions of environmental issues; the need for innovative policy and institutional approaches; and the involvement of communities in policy and management. These principles are not mere rhetoric, but are stated in international policy and in much national policy and even law (in over a hundred Australian statutes). That they have not been too well addressed since their initial articulation is 1992 does not diminish their importance; large and complex reforms within human societies take much time, something historians understand better than most.

Only a little too grandly, Harrison (1992) has termed sustainable development the universally agreed goal of human progress. It certainly is now a major item on national and international policy agendas, and did not simply appear magically in 1987. This invites a glance behind the immediate precursors of Brundtland and Rio, which are the limits of historical appreciation apparent in some policy circles, to the historical evolution of the modern idea of sustainability. These roots are deep and diverse, in classical economics, renewable resource management, Romanticism, energetics, and elsewhere (Worster 1977; Boyden 1987; Martinez-Alier 1987; Dovers 1990; Common 1995; Grove 1995). Also, the current meta-policy setting noted above consolidates and extends previous international initiatives and instruments; for example the 1972 Declaration of the UN Conference on the Human Environment and the 1982 World Charter for Nature (*International Legal Materials*, volumes 11 and 22). Further, Brundtland was the intended next step after the 'Brandt' and 'Palme' reports (Independent Commission on International Development Issues 1980; Independent Commission on Disarmament and Security Issues 1982). This is a lesson both for historians and for those concerned with sustainability in a more immediate sense. Viewing sustainability as the culmination (so far) of a long, complex process of evolution of the nature of the substantive problems and the intellectual perspective and policy response provides a vastly different perspective than viewing it, as some evidently do, as simply the latest policy or research fashion.

It is important to understand the nature of sustainability relative to other policy fields. Briefly, compared to other policy fields, meso- and especially macro-problems display more often, and more often in combination, the following attributes (Dovers 1997 see also Dryzek 1987; Funtowicz and Ravetz 1990; Walker 1994; Adam 1995):

- temporal scales exceeding those determining policy and management attention;
- broadened spatial scales (across ecological and political boundaries);
- possible absolute ecological limits to human activities;
- irreversible or possibly irreversible impacts;
- sometimes, the inappropriateness of the mainstay of political conflict resolution in industrial democracies, re-allocative compromise;
- urgency;
- cross-problem connectivity and thus policy complexity (between sustainability problems, and with other social and economic policy fields);
- systemic causes (i.e. rooted in our systems of production and consumption);
- pervasive ignorance and uncertainty;

- cumulation of impacts;
- rising demands and justification for community participation in policy and management;
- new moral and ethical dimensions (the rights of future generations and other species); and
- sheer novelty as a suite of public policy problems.

This is not to say that other policy problems – health or economic policy, service delivery, and so on – are somehow easy; they are not. But sustainability problems are certainly different in kind, and if attributes such as limits and irreversibility matter, then arguably different in degree as well. This suggests a *prima facie* case that current policy processes and modes of policy analysis, fashioned as they have been against problems not so characterised by such attributes, are unlikely to be adequate for addressing some problems. In answer to this, I have elsewhere sketched the basics of a more appropriate policy process 'model' (Dovers 1995b). Given such a problem set, those involved in current policy design need all the help they can get. Some of these attributes in particular suggest the value of historical perspectives: temporal scale, obviously, but also complexity, connectivity, nature of causes (things emerge slowly) and uncertainty.

The achievement of sustainability is thus a very big, complex and difficult challenge, and the problem of unsustainability a systemic one. The roots of unsustainability go very deep; at least as deep in a practical sense as those of the key political, social and economic institutions of modern societies, and this proposes structural disjunctions between human and natural systems. It seems a fair enough argument that the longer view into the future demanded by sustainability needs be matched by a longer view back. Thus the generic notion that an historical context will help understanding of the present and future might be especially the case for sustainability.

3. A TYPOLOGY OF RELEVANCE

More detail as to what a useful long view back might comprise asks *what* environmental history might offer current debate and policy. We can entertain three categories of relevance as a convenient heuristic; general historical perspectives, human and ecological baselines, and policy and institutional lessons. The case for these is put here, but the implicit challenge is for environmental historians to consider their position and which of the three, if any, appeals more or is the more appropriate. The following identifies each of these and provides some illustrative possibilities:

(1) *General historical perspective*

This is the most obvious form of relevance to current preoccupations, and this case has been often enough made. Most simply, it can usefully be evidenced that 'the history of environmental concern and conservation is certainly not new' (Grove 1995: 1). This is both the most popular form of relevance and the one already and most demonstrably fulfilled by environmental history, but also the most vague and difficult to argue an objective case for (a generic problem for the discipline of history). The claim here is simply that an understanding of the evolution of human-natural system interconnections puts current problems into fuller perspective. Understanding better the movements of colonial expansion, the evolution of agricultural technology and management practices, the advent of institutional settings, the growth of commodity trade – such things are enormously relevant to understanding current problems. In Australia, the argument for a general historical perspective has been established for sectors and issues such as forestry, agriculture and energy (respectively, Dargavel 1995; Dovers 1992; Dovers 1994c). The defining feature of a general historical perspective is that, while understanding and thus perhaps response ability is enhanced, there are unlikely to be operational policy suggestions arising. While 'traditional' history can inform in this respect, a stronger environmental flavour is required for full relevance to sustainability.

Crucially, relevance to sustainability demands a form of environmental history that goes well beyond tracing the history of traditional environmental protection and amenity concerns of pollution and nature conservation. Sustainability is fundamentally about integrating ecological, social and economic dimensions of the human experience, and this in turn requires integration of these in any attempt at historical perspective. In this vein, environmental history needs to have explanatory power regarding the roots of and reasons for such things as the institutions, consumption patterns, economic activities, settlement arrangements, and scientific and methodological approaches relevant to a particular 'on ground' environmental phenomenon.[4] This suggests limits, at least in this regard, to the usefulness of 'nature history', which has been a major theme in environmental history. On the other hand it suggests that history, through its potential comprehension of the social, political and economic past, can make a unique contribution to thinking about sustainability. If historians are not always ecologically literate, ecologists and other natural scientists could usually do with some historical and social instruction. Mutual admissions of ignorance are a necessary ritual in interdisciplinary endeavours. A simple example relates to rural natural resource management in Australia. Current problems of ecological, social and economic sustainability of agriculture are closely related in many regions to inadequate property sizes, and have their roots in, *inter alia*, a long history of closer settlement schemes and poor conceptions of what constituted a viable holding. While not a great deal can be done, in a

policy sense, on the basis of knowledge of this, realising the historical context and roots helps contextualise today's difficulties.

(2) *Establishing baselines (ecological and human)*

This involves answering more particular questions of 'What was there before ....?' Many sustainability problems, especially concerning biological diversity, beg such a baseline to inform questions of where we are now and where we should be going, or returning to. These may relate to biophysical or ecological conditions (status of soil, 'original' vegetation patterns, natural fire regimes, distribution and abundance of species). Or they may relate to human activity at a given time (extent and timing of pastoral settlement, colonial commodity trades, cultivation practices, regulation of land use). These sorts of baselines are increasingly being explored in Australia, and many are being found to be relevant to policy (various examples are cited in Dovers 1994b; Dovers in press). Useable understanding of change in dynamic systems, be they natural or human, will not emerge without appreciation of previous states. Three related examples illustrate this category. Insufficient scientific data on ecological and physical changes in apparently degraded rivers now absorbing much policy and management attention have seen scientists turn to oral history techniques to fill in the gaps, successfully both in constructing the story and in engaging and empowering local communities (Roberts and Sainty 1996). Similarly, active management problems such as land rehabilitation through revegetation in the face of erosion and salinity, biodiversity conservation on farms and nature reserve selection and management are complicated by a lack of understanding of vegetation patterns at the time of European occupation in Australia. Environmental history can inform such endeavours through establishing clearer pictures of such patterns (Barr and Cary 1992). Vegetation patterns and assemblages of fauna were clearly influenced by indigenous burning and hunting, but argument rages as to the actual degree and extent (Bowman 1997). Modern fire management regimes seek to mimic indigenous patterns in some major national parks, and the contested efficacy of these practices might be clarified by further historical work. In all three cases, a variety of disciplines, methods and sources are demanded; documentary and oral history, geomorphology, ecology, anthropology, and so on.

(3) *Policy and institutional lessons*

This category is less often recognised, and, indeed, it is here that the 'relevance' argument becomes more contestable, and is the one dealt with in more detail in what follows. It refer to insights, perspectives or information of direct relevance to a topical policy problem or institutional challenge, and involves exploring previous responses to environmental change in a search for precedents, warnings

or models. Most simply, it may involve being reminded of what we have forgotten. While the previous category may *inform* policy in a contextual manner, it is unlikely to *instruct* with respect to specific policy instruments or strategies. This form of relevance involves being alert to the possibility of direct lessons regarding policy processes, institutions or instruments. These lessons will be generally sought in more recent history given that, at least in a country such as Australia, most of the political institutions through which we may effect change have been recently determined, and thus earlier lessons may be difficult to transfer. However, the rise in prominence of community-based environmental management regimes raises cultural issues on which useful perspective may be gleaned from the further past (cf. Brosius et al. 1998), and the parameters of modern governance in Australia date to Federation in 1901.

Much more could be said about these three categories of relevance. All are suitable to an 'institutional approach', but most pointedly the third. All three categories demand the endeavours of a number of disciplines; from the social and natural sciences and the humanities. Also, it may be difficult to separate them; for example, an inquiry may offer lessons regarding the general nature of institutional change (category 1) as well as more specific instruction regarding the problem at hand (category 3). One work may contribute to all three. Further, it may be hard to predict which will be most likely to arise from project. The useful outcomes of an inquiry in environmental history are likely to be accidental – unavoidable, given pervasive uncertainty and complexity. For the remainder of the article, I will dwell further on the third category.

4. *AD HOCERY*, AND POLICY AMNESIA

The third category of relevance, policy lessons, might be viewed as unnecessary, given that most useful policy examples or experiments would have happened not so long ago. Surely our policy processes and institutions work actively to ensure that we remember, and that we learn? Sometimes we do, but often we do not, and I would propose, at least in the case of Australian environment policy (portrayed as a global standard in some sectors), that 'policy amnesia' is endemic. Australian environmental policy has, not always but too often, been characterised by an episodic, lurching, ahistorical, myopic *ad hocery* (Dovers 1995b, see also Bonyhady 1993; Toyne 1994; Walker 1994; Doyle and Kellow 1995). This applies to traditional environmental policy, and to the complex of sustainable development policy that has been formulated during and after the national ecologically sustainable development (ESD) process of 1990-1992 (Commonwealth of Australia 1992, but for critique see Dovers 1995b; Hamilton and Throsby 1998). Even lessons that could be learned from the quite recent past are too often overlooked in the rush of near term imperatives, expediencies and policy fashion.

Learning from either successes or mistakes in policy is hampered by a lack of models and frameworks. In the policy literature, learning is much discussed, poorly conceptualised and rarely demonstrable (May 1992, see also Bennett and Howlett 1992). In ecosystem management, the notion of learning by doing – 'adaptive management' – which seeks to construct policy and management as a systematic yet flexible experiment, is an encouraging proposition rather than an operational approach (Holling 1978; Walters and Holling 1990; Gunderson et al. 1995). For sustainability problems, the design and creation of institutional arrangements to enable policy learning or adaptive management are highly problematic, and only just beginning to be explored (Lee 1993; Dovers et al. 1996; Dovers and Mobbs 1997). This is especially due to difficulties associated with temporal and spatial scale, complexity and connectivity, and to the crudity of connections between disciplines. Adaptive management is attractive on the last of these, being an approach to the policy and politics of the environment firmly rooted in an ecological rather than social science perspective, although increasingly sensitive to the latter. Moreover, we are not good at keeping policy attention engaged over long time periods, even when pervasive and widely admitted uncertainty can only mean that policy failure is inevitable in the absence of extreme luck. Lee (1993) observes that, within the necessary time horizon of adaptive management of a river basin, the professional life span of the researcher or manager is only a brief part. A related obstacle is the reluctance to admit or embrace ignorance and uncertainty in modern policy cultures (Smithson 1989; Dovers and Handmer 1995). I suspect that environmental history, or at least aspects thereof, may be able to assist.

The prospect of learning from past efforts to cope with environmental change brings environmental history closer to Uekoetter's 'organisational approach' designed to add purpose and coherence to environmental history. Again, an 'institutional' approach is a better description, encompassing a wider range of human phenomenon and an accepted slowness and unevenness of institutional change (cf. Goodin 1996). In particular, our organisation of responses – now and in the past – is very much about learning, the expression of aspirations in law, policy processes and institutions, and the companion issue of communities' engagement. Such an approach invites discussion of environmental history's relationship with other interdisciplinary alliances seeking to engage with sustainability; ecological economics, green social theory, environmental philosophy, and others. For it is at the intersection of disciplines rather than in disciplines that most light is being shed on sustainability.

To expand on the notion of policy lessons from historical analysis, I will be both pragmatic and parochial and touch on some Australian examples. The question is whether we learn from past endeavours, and if the answer is no, then a *possible* role for environmental history emerges. The theme is not so much experience with policy instruments, but rather with policy processes and institutional arrangements.[5] For efficiency and convenience, I will simply run

through a few areas of current Australian policy concern, and propose the missing historical dimension, or rather the sorts of lessons that might be sought. In all cases, learning can be from both successes and failures; more to the point it must be both, as complete success or failure in policy and management is virtually unknown at a reasonable level of detail – there are always at least traces of both. Also, past policy processes and institutional arrangements need to be viewed at a disaggregated level – it is at the level of particular features where lessons are likely to accrue, not in a quest for entire institutional blueprints.

1) The first case has both positive and negative aspects: arrangements for land and water resource management, and their integration with social and economic policy, in the large and very important Murray-Darling Basin. The MDB arrangements are complex and evolving, and an excellent historical coverage is given by Powell (1993). Australia's federal system, with constitutional power over resource management largely residing with the states and territories, makes the task of co-ordinating river basin management difficult, politically and logistically. Much of the potential of the MDB experience lies in its venerability – the MDB Commission's parent, the much narrower River Murray Commission, was created in 1915, and inquiries into navigation and water supply were undertaken before this. Following final Commonwealth-state statutory expression of the modern, basin-wide arrangements in 1993 (stemming from episodes of concern in the mid-1970s and 1980s), the institutional setting can be now said to be as impressive and comprehensive as might be expected in a federation often characterised by inter-governmental friction. This invites the question of whether there are lessons for more recent attempts at inter-government and inter-sectoral policy and management initiatives, of which there is an unco-ordinated complex at present. More specifically, the many emerging efforts in co-ordinated, cross-jurisdictional river basin management (Dovers and Dore 1999), in Australia and elsewhere, look to the MDB as a model, yet it is not transferable in an entire sense outside its context. Nonetheless, it is a source of perspective on the patience and complex processes required to translate general goals to operational form (a task still ongoing in the Basin). This can inform realistic expectations of how much time and effort is required for substantial institutional change, the features that might encourage this, and an understanding of the preconditions for changing from a 'developmental' to a more 'integrative' or 'sustainability' mode of operation, as occurred in the MDB in the mid-1980s.

2) Sustained exploration of the preconditions for successful or at least encouraging institutions, could go further than the MDB. Other subjects, with twenty or more years standing, could be the inclusive yet structured arrangements co-ordinated by the Great Barrier Reef Marine Park Authority, and the history of intensive land use inquiries by Victoria's Land Conservation Council, both of which have been lauded as world class exemplars (respectively, Bowen 1994; Robin 1998). Of particular interest in these cases would be the political

conditions enabling establishment, the importance of a comprehensive statutory basis, mechanisms for participation, and the time required for methods and procedures to be shaped and improved. This requirement of time to develop practices, processes and expertise runs sharply counter to a very apparent desire for 'instant policy gratification'. This was dramatically illustrated in the Australian context by the discontinuation, in a fit of pique in 1993, of the impressive and unprecedented Resource Assessment Commission after less than four years and only three inquiries (Stewart and McColl 1994). Institutions take longer than this to evidence their worth or to usefully evolve. Similarly, the Land Conservation Council was a major initiative, but has recently been rendered less inclusive and independent – a lack of appreciation of the historical roots of the organisation was perhaps not unconnected to its openness to attack (cf. Robin 1998).

3) Any highly contested resource or environmental management sector may bear insights, most especially those that have been topical over long periods. Some lessons can be gleaned from work done on Australian forests (Dargavel 1995), and on water (Powell 1989, and more generally Teclaf 1967). Such inquiries elucidate the nature, demands and evolution of 'resource regimes' (Young 1982) which we constantly construct but tend not to maintain or learn from. The fact that these two issues have been problematic for governments of late may sharpen the appetite for new perspectives. Forests (or at least old-growth forests) and water allocation in heavily committed river systems are emerging as issues where there is insufficient resource left for political resolution to be possible through allocative or compromise measures; a fraction of not enough is unlikely to satisfy either environmentalist, logger, irrigator, or fish.

4) At present, there is a renewal of interest in the regional (more than local, less than state) scale as a focus for various national policy initiatives: resource assessment, environmental planning, biodiversity monitoring, employment generation, economic development (eg. O'Neill and Fagan 1995; Dore and Woodhill 1999). In the resource and environment area, this appears to be being pursued with little cognisance of many previous (and often not very successful) manifestations of regionalism. Australia has a mixed history of attempts at regionalisation, with many possibly informative precedents existing, from the post-World War II era of extensive CSIRO land survey, through 1960s town and country planning, to more recent strategic planning schemes. Historical inquiry might helpfully focus on the detail of regional endeavours, seeking at that level examples of the more resilient and adaptive features of organisations and institutions.

5) Community involvement in environmental management (public participation, co-management, stakeholder engagement) is at present both theoretically fashionable (eg. Fischer 1993; Torgerson 1994), endorsed in all major international and Australian policies, and rapidly growing in a practical sense. Most

startling in Australia is 'Landcare', born in Victoria in the 1980s, endorsed in national policy in 1989, and in the space of a decade having grown to now comprise over four thousand community Landcare groups (for a history and detail, see Campbell 1994). Also, there are now literally thousands of Waterwatch groups involved in community based monitoring, and many other, lesser programmes: Saltwatch, Frogwatch, Fishwatch, Dunecare, and so on. This phenonemon is vastly encouraging – Landcare at least will in future be seen as one of the great turning points in the history of Australian land management, on par with closer settlement and the inrush of fossil fuels in the middle of this century. However, all these groups are young and experimental and many questions remain as how best to proceed in terms of organising, institutionalising, administering, funding, encouraging and consolidating these groups (Martin and Woodhill 1995). An historical perspective might help with such questions. For many of those involved in or promoting or criticising Landcare, it is a thoroughly new phenomenon. But it is perhaps not the recent and progressive policy fashion it might seem, at least not in general style. Rather, it builds on a history of cooperative initiatives in rural resource management in Australia. For example, in New South Wales some interesting models exist, such as Pasture Protection Boards (from 1902) and River Improvement Trusts (1948). Similar bodies existed and often still exist in other states. They are not 'environmental' in the sense now understood; indeed, actions like desnagging and channelising rivers are now frowned upon, and perhaps this is the reason they do not come to mind as informing models. But they were institutionalised and duly constituted community resource management schemes enabled by statute law, and with powers of coercion and levy. In the current era of community involvement, although the number of programmes is much greater, such foundations are yet to be provided. The 'new paradigm' of a social response model of land degradation policy has in many ways replaced rather than supplemented the 'old paradigm' approach of agronomic and engineering based extension. For many, the old 'failed' – it did not, and nor did it fully succeed, but the profession and achievement of the soil conservationist may well be lost to social memory and to the policy toolkit. The possible lessons that might be learnt from these earlier manifestations have not been much considered. Of course, transfer of lessons would have to take account of changed values and conditions (for example, the larger array of stakeholders).

6) One area of intense current activity which can only be noted here concerns the management of Aboriginal and Torres Strait Islander lands and the use of traditional knowledge in informing policy and management. The potential of this area of learning stems from sixty thousand years or more of indigenous land management, the fact that one-seventh of Australia is now under traditional ownership or management, the imperatives arising from the 1992 High Court *Mabo* case and the ensuing *Native Title Act* 1993, and the existence of positive examples of co-management of conservation reserves (Ross et al. 1994; de Lacy

1994; Attwood 1996). It may be that the bitter, unproductive nature of recent debates over native title could have been eased with a greater and shared appreciation of the cultural, legal and environmental history of the issue. Furthermore, Aboriginal land councils and the overarching Aboriginal and Torres Strait Islander Commission are meeting places for traditional indigenous modes of discourse and modern political structure, but are increasingly threatened by, among other things, a lack of understanding in the community of cultural (political) history.

7) The final case is perhaps less pertinent than the others, but does emphasise *ad hocery* rather well, and serves to illustrate the sometimes acute nature of policy amnesia. State of the environment reporting (SER) is now seen a 'must have' in environment policy. The notion is simple: a consolidation of information in a form useful to decision makers. Australia began national SER in the mid-1980s, but this only lasted a few years before neglect and lack of permanence of arrangements saw its demise. In post-ESD 1992, national SER has been resurrected, still without the statutory mandate that should see it survive longer in some state and territory jurisdictions. Few lessons seem to have been learned from the previous experience: indeed, at an advisory committee meeting in 1992, some bureaucrats working on the project had to be appraised of the fact there had been a previous undertaking, and that its last output had been published only five years earlier (this is based on the author's recollection). In Victoria, an impressive SER program has lapsed; it too lacked a statutory basis. A question from a non-historian: do historians usually have to cope with institutional amnesia over less than a decade? Lest it be thought that SER is an exceptional case, stories of similar disjunctions have been recorded in the cases of national land degradation surveys and water resource audits, with similar periods of time required for initiatives to be forgotten (Dovers 1995b). A question for historians to consider is, what are the attributes of informing institutions and public policy processes in the past that have proved resilient and have had lasting influence on human-environment relationships?

5. CONCLUSIONS

These cases involve very real and difficult policy problems. In most cases, policy debate tends to be somewhat ahistorical, and the potential of an historical contribution is sufficiently clear. Detailed lessons have not been sought here; the above cases are meant to make the general point and indicate a research agenda, not propose policy reforms. Even in proposing research, it is accepted that the 'policy lesson' proportion may be but a small component of a broader inquiry. There is a possible arena of inquiry for environmental historians, or at least an aspect to our inquiries, which involves the recent history of environmental policy. This is needed and relevant, and could be a valuable dimension of

environmental history. The response may be that many inquiries already touch on this aspect, but it should be made much more explicit. I accept that, in its pragmatism and immediacy, this is contestable as a branch of environmental history, let alone 'history' proper. Perhaps it is better portrayed as an addition to environmental policy analysis or environmental management, or simply as what enlightened policy learning should be doing anyway. But it is not, or at least not often in the areas I am familiar with.

As the scale and pace of environmental change increases, does the boundary of what constitutes history move closer behind us? Whatever, the skills of the environmental historian are relevant. I do not imagine that the other two categories of relevance would be questioned by anyone involved in environmental history. If the more immediate third category is not attractive as a motivation *per se*, the possibility that such pragmatic lessons could be gleaned must be recognised, both by environmental historians and by those in the business of analysing or formulating policy. If environmental historians were occasionally asked to join (or infiltrated) the interdisciplinary projects commonly undertaken to inform environmental policy and management, interesting things might ensue. The benefits of such engagement would accrue in both directions.[6] Many of the Australian inquiries in environmental history suggested by Powell (1996) in his survey and menu could serve to inform stakeholders and policy makers should such connections be established.

There are, of course, both positive and negative implications of engagement with policy processes. Positively, there are fresh topics, and new sources, insights, partners and disciplinary alliances. There is the potential to contribute to pressing societal problems, whether for moral purpose or professional engagement. There is even the chance of enlarged readership and funding. The reasons for relevance thus range across the altruistic and scholarly to the grubbily pragmatic. On the negative side, there is diversion and diffusion of resources and effort and the possibility of political capture in a maze of topical issues. Environmental historians would differ on the relative importance of these opportunities and dangers.

An enhanced appreciation of failures to learn from past experience would have implications for the future as well as the present. From an historical perspective, indications should emerge of the sort of practices, processes and institutions required for policy learning. We can regret that such things were not established in the past and try to overcome our resulting lack of information and experience as best we can. But more than that, in the language of sustainability, we can treat information and policy experience as capacity-building endowments to future generations; part of the ongoing process of human settlement. We have far less excuse for not accepting that responsibility than did previous generations. One lesson of even quite recent history is that what we regret now, if not attended to, will most likely be regretted again in five, fifty or hundred years.

NOTES

[1] This article is based on a paper delivered to the Environmental History Workshop, Department of Historical Studies, University of Natal, Pietermaritzburg, July 1996. Thanks are due to the organisers of the workshop for their invitation and assistance; and to Stephen Boyden, Mark Elvin and Dingle Smith for helpful comments on various drafts of the paper.

[2] Useful examples of cross-country and -culture comparison are Beinart and Coates 1995 and Griffiths and Robin 1997. Other such endeavours would doubtless proceed very differently to this one, according to the places and problems examined and the people involved. An important issue is how ecological, historical and political commonalities compete as the criteria for selecting cases for comparison.

[3] Elsewhere, important distinctions are drawn between sustainability, a crucial and long-term system attribute, and sustainable development, the variable, short-term and at times questionable policy activity seeking to enhance or maintain that attribute. This is not expanded on here (but see Dovers and Handmer 1992; Dovers and Norton 1994).

[4] I am both influenced by and indebted to the biohistorical approach developed by Boyden (1987), which also lies behind much activity at the Centre for Resource and Environmental Studies, The Australian National University (see also Boyden *et al* 1990; Dovers 1994b,c; Dovers and Handmer 1992; Common 1995).

[5] Another related, important question is whether we learn from other, *contemporary* initiatives and experiences. The answer is no, often enough, and this leads to all sorts of process and institutional problems not of direct relevance here.

[6] Not all involved in policy deem the past uninteresting: Australia's Land and Water Resources R&D Corporation has supported a large research project led by the author, to assess the past three decades of resource and environmental management institutions, with the expressed theme of exploring further into the past when useful perspectives might be found.

REFERENCES

Adam, B. 1995. 'Running out of time: global crisis and human engagement'. In M. Redclift and T. Benton (eds) *Social theory and the global environment*, pp. 92–112. New York: Routledge.

Attwood, B. (ed). 1996. *In the age of Mabo: history, Aborigines and Australia*. Sydney: Allen and Unwin.

Barr, N. and Cary, J. 1992. *Greening a brown land: the Australian search for sustainable land use*. Melbourne: Macmillan.

Beinart, W. and Coates, P. 1995. *Environmental and history: the taming of nature in the USA and South Africa*. London: Routledge.

Bennett, C. and Howlett, M. 1992. 'The lessons of learning: reconciling theories of policy learning and policy change'. *Policy Sciences* **25**: 275–94.

Bonyhady, T. 1993. *Places worth keeping: conservationists, politics and the law*. Sydney: Allen and Unwin.

Bowen, J. 1994. 'The Great Barrier Reef: towards conservation and management'. In S. Dovers (ed.) *Australian environmental history: essays and cases*, pp. 234–56. Melbourne: Oxford University Press.

Bowman, D.M.J.S. 1997. Tansley Review No.101. 'The impact of Aboriginal burning on the Australian biota'. *New Phytologist* **140**: 385–410.

Boyden, S. 1987. *Western civilization in biological perspective: patterns in biohistory*. Oxford: Clarendon Press.

Boyden, S., Dovers, S. and Shirlow, M. 1990. *Our biosphere under threat: ecological realities and Australia's opportunities*. Melbourne: Oxford University Press.

Brosius, J.P., Lowenhaupt Tsing, A. and Zerner, C. 1998. 'Representing communities: histories and politics of community-based natural resource management'. *Society and Natural Resources* **11**: 157–168.

Campbell, A. 1994. *Landcare: communities shaping the land and the future*. Sydney: Allen and Unwin.

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

Commonwealth of Australia. 1992. *National strategy for ecologically sustainable development*. Canberra: Australian Government Publishing Service.

Dargavel, J. 1995. *Fashioning Australia's forests*. Melbourne: Oxford University Press.

de Lacy, T. 1994. 'The Uluṟu-Kakadu model – Aṉangu Tjukurrpa: 50,000 years of Aboriginal law and land management changing the concept of national parks in Australia'. *Society and Natural Resources* **7**: 479–98.

Dore, J. and Woodhill, J. 1999. *Sustainable regional development*. Canberra: Greening Australia.

Dovers, S. 1990. 'Sustainability in context: an Australian perspective'. *Environmental Management* **14**: 297–305.

Dovers, S. 1992. 'The history of natural resource use in rural Australia: practicalities and ideologies'. In G. Lawrence, F. Vanclay and B. Furze (eds) *Agriculture, environment and society: contemporary issues for Australia*, pp. 1–18. Melbourne: Macmillan.

Dovers, S. 1994a. 'Australian environmental history: introduction, review and principles'. In S. Dovers (ed.) *Australian environmental history: essays and cases*, pp. 2–19. Melbourne: Oxford University Press.

Dovers, S. 1994b. 'Sustainability and "pragmatic" environmental history: a note from Australia'. *Environmental History Review* **18**(3): 21–36.

Dovers, S. 1994c. 'Historical and current patterns of energy use'. In S. Dovers (ed.) *Sustainable energy systems: pathways for Australian energy reform*, pp. 13–47. Melbourne: Cambridge University Press.

Dovers, S. 1995a. 'A framework for scaling and framing policy problems in sustainability'. *Ecological Economics* **12**: 93–106.

Dovers, S. 1995b. 'Information, sustainability and policy'. *Australian Journal of Environmental Management* **2**: 142–56.

Dovers, S.R. 1997. 'Sustainability: demands on policy'. *Journal of Public Policy* **16**: 303–18.

Dovers, S. 1999. 'Adaptive policy, institutions and management: challenges for lawyers and others'. *Griffith Law Review* **8:** 377–42.

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

Dovers, S. and Dore, J. 1999. Adaptive institutions, organisations and policy processes for river basin and catchment management. 2nd International River Management Symposium, Brisbane, 29 September–1 October.

Dovers, S. and Handmer, J. 1992. 'Uncertainty, sustainability and change'. *Global Environmental Change* **2**: 262–76.

Dovers, S.R. and Handmer, J.W. 1993. 'Contradictions in sustainability'. *Environmental Conservation* **20**: 217–22.

Dovers, S.R. and Handmer, J.W. 1995. 'Ignorance, the precautionary principle, and sustainability'. *Ambio* **24**: 92–7.

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

Dovers, S. and Norton, T. 1994. 'Towards an ecological approach to sustainability: considerations for ecosystem management'. *Pacific Conservation Biology* **1**: 283–93.

Dovers, S., Norton, T. and Handmer, J. 1996. 'Uncertainty, sustainability, ecology, and policy'. *Biodiversity and Conservation* **5**: 1143–67.

Doyle, T. and Kellow, A. 1995. *Environmental policy and policy making in Australia*. Melbourne: Macmillan.

Dryzek, J. 1987. *Rational ecology: environment and political economy*. Oxford: Basil Blackwell.

Fischer, F. 1993. 'Citizen participation and the democratization of policy expertise: from theoretical inquiry to practical cases'. *Policy Sciences* **26**: 165–87.

Funtowicz, S. and Ravetz, J. 1990. *Uncertainty and quality in science for policy*. Kluwer: Dordrecht.

Goodin, R.E. (ed.) 1996. *The theory of institutional design*. Cambridge: Cambridge University Press.

Griffiths, T. and Robin, L. (eds) 1997. *Ecology and empire: environmental history of settler societies*. Melbourne: Melbourne University Press.

Grove, R. 1995. *Green imperialism: colonial expansion, tropical island Edens, and the origins of environmentalism, 1600–1860*. Cambridge: Cambridge University Press.

Gunderson, L., Holling, C. and Light, 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.

Holling, C.S. (ed.) 1978. *Adaptive environmental management and assessment*. Chichester: Wiley.

Independent Commission on Disarmament and Security Issues 1982. *Common security: a blueprint for survival*. New York: Simon and Schuster.

Independent Commission on International Development Issues 1980. *North-South: a programme for survival*. London: Pan Books.

Lee, K.N. 1993. *Compass and gyroscope: integrating science and politics for the environment*. Washington DC: Island Press.

Martin, P. and Woodhill, J. 1995. 'Landcare in the balance: government roles and policy issues in sustaining rural environments'. *Australian Journal of Environmental Management* **2**: 173–83.

Martínez-Alier, J. 1987. *Ecological economics: energy, environment and society*. Oxford: Basil Blackwell.
May, P. 1992. 'Policy learning and policy failure'. *Journal of Public Policy* **12**: 331–54.
Meadows, D.H., Meadows, D.L. and Randers, J. 1992. *Beyond the limits: global collapse or sustainable future*. London: Earthscan.
Myers, N. 1993. 'Population, environment and development'. *Environmental Conservation* **20**: 205–16.
O'Neill, P. and Fagan, R. 1995. 'The new regional policy: what chance of success?' *Australian Quarterly* **67**(2): 55–68.
Powell, J.M. 1989. *Watering the garden state*. Sydney: Allen and Unwin.
Powell, J.M. 1993. *The emergence of bioregionalism in the Murray-Darling Basin*. Canberra: Murray-Darling Basin Commission.
Powell, J.M. 1996. 'Historical geography and environmental history: an Australian interface'. *Journal of Historical Geography* **22**: 253–273.
Redclift, M. 1987. *Sustainable development: exploring the contradictions*. London: Methuen.
Roberts, J. and Sainty, G. 1996. *Listening to the Lachlan*. Sydney: Sainty and Associates.
Robin, L. 1998. *Defending the Little Desert: the rise of ecological consciousness in Australia*. Melbourne: Melbourne University Press.
Ross, H., Young, E. and Liddle, L. 1994. 'Mabo: an inspiration for Australian land management'. *Australian Journal of Environmental Management* **1**: 24–41.
Smithson, M. 1989. *Ignorance and uncertainty: emerging paradigms*. New York: Springer-Verlag.
Stewart, D. and McColl, G. 1994. 'The Resource Assessment Commission: an inside assessment'. *Australian Journal of Environmental Management* **1**: 12–23.
Teclaff. L.A. 1967. *The river basin in history and law*. The Hague: Martinus Nijhoff.
Torgerson, D. 1994. 'Strategy and ideology in environmentalism: a decentered approach to sustainability'. *Industrial and Environmental Crisis Quarterly* **8**: 295–321.
Toyne, P. 1994. *The reluctant nation: environment, law and politics in Australia*. Sydney: ABC Books.
Uekoetter, F. 1998. 'Confronting the pitfalls of current environmental history: an argument for an organisational approach'. *Environment and History* **4**: 31–52.
United Nations 1992. *Agenda 21: the United Nations programme of action from Rio*. New York: UN.
Walker, K. 1994. *The political economy of environmental policy*. Sydney: University of NSW Press.
Walters, C.J. and Holling, C.S. 1990. 'Large scale management experiments and learning by doing'. *Ecology* **71**: 2060–8.
World Commission on Environment and Development 1987. *Our common future*. Oxford: Oxford University Press.
Worster, D. 1977. *Nature's economy: a history of ecological ideas*. San Francisco: Sierra Club Books.
Young, O. 1982. *Resource regimes: natural resources and social institutions*. Berkeley: University of California Press.