
7 Improving coordination, monitoring and feedback

The previous chapter examined the issues which have impeded ESD implementation, particularly a failure to undertake ‘good practice’ policy making, and discussed ways of making improvements to its adoption. The ability of departments and agencies to apply good practice policy making also relies on coordination amongst, and within, different levels of government; analytical and policy formulation skills; and accurate and relevant information.

This chapter focuses on how coordination and data collection, monitoring and feedback might be improved to better facilitate implementation of ESD.

7.1 Improving coordination

Effective coordination within, and between, governments and stakeholders has been identified throughout this report as important for the successful implementation of ESD. The cross sectoral nature of integrating short term and long term economic, environmental and social issues; the multiple uses of natural resources; the division of responsibilities among various levels of government; and the judgements required for decision making mean that effective coordination across interested parties is critical to good policy outcomes. Coordination in this context is about the exchange of information and experience, not centralised control. Without effective coordination a number of difficulties can arise. Relevant expertise and viewpoints may not be appropriately integrated into decision making, problems may not be well defined, and priorities may not be well developed.

The task of coordinating is significant. It involves coordination within, and between, the different levels of government — Commonwealth, State and Local — as well as outside government, involving groups such as community organisations, unions, businesses, farmers, the scientific community and affected individuals.

Governments, in particular the Commonwealth, have important leadership roles in coordinating ESD policies. Participants in this inquiry were concerned that currently governments are failing to coordinate their ESD activities, with negative consequences. For example, the Australian Conservation Foundation said:

... governments in Australia have failed to integrate environmental and economic planning. The pursuit of ecologically sustainable development requires coordination across Commonwealth departments and a centralised point of access for communication with and input from, the states. This coordination is absent at present, both within and between governments. (sub. 27, p. 64)

Similarly, the Ministry of Premier and Cabinet in Western Australia submitted:

Currently, there is no effective Commonwealth/State co-ordination mechanism for ESD. (sub. 20, p. 1)

In a similar vein, the Deputy Premier and Minister for Primary Industries, Natural Resources and Regional Development in South Australia (sub. 41, p. 5) submitted:

... there is a feeling that the resources available to coordinating bodies limit their effectiveness and that the political framework is not adequately supportive of decision making and implementation of policy.

As discussed in chapter 6, consultation and coordination are important elements of the policy development process. Failure to consult can have a negative impact on the quality of decisions. The Commonwealth Department of Transport and Regional Services (sub. 36, attachment C, p. 1) argued that inadequate consultation with local government had contributed to poor decision making:

... because of the involvement of Local Government (LG) in day to day decisions on the environment, it is essential that LG is included in policy development from the outset. In the past coordination with LG has been inadequate resulting in poor decisions being made at the implementation level which usually means at the LG level.

Poor coordination may also result in government activities being duplicated or incomplete in their coverage, and information collection and research may be poorly disseminated, duplicated or not undertaken at all.

Assessing coordination

As described in chapter 3, several arrangements have been designed to facilitate coordination between governments, such as the Intergovernmental Agreement on the Environment. There are also examples initiated by individual departments and agencies. However, the effectiveness of these initiatives has been mixed.

Coordination problems, both in terms of policy development and implementation, were raised frequently by participants in this inquiry. The Australian Industry Group (sub. 12, p. 2) stated:

One of the key areas of concern to the Australian Industry Group with respect to the implementation of ecologically sustainable development (ESD) is the range of Government Departments which have active ESD policies and the apparent lack of

coordination between these entities and the lack of a clear set of priorities among the various programs and policies.

The Australian Industry Group (sub. 12, p. 2) also highlighted the issue of coordination between different levels of government:

There is also a lack of coordination between the Commonwealth and other levels of Government. This is of particular concern as a large proportion of environmental regulation which directly impacts on business is implemented at the State and local Government levels.

The Minerals Council of Australia (sub. 16, p. 4) emphasised the need for better coordination across government departments to ensure improved decision making:

The implementation of ESD needs to be undertaken on a whole of government basis to ensure that the full breadth of portfolios with a responsibility for ESD issues have a role in the decision making process. Co-ordination of ESD issues across governments needs to be improved to maximise efficiency and to ensure that specific portfolios with specific responsibilities for ESD have the appropriate influence on decision making.

Within government, some of these limitations were also recognised. For example, the Australian and New Zealand Minerals and Energy Council (ANZMEC) commented that:

... there is inadequate communication between ANZMEC and ANZECC [Australiana and New Zealand Environment and Conservation Council] on some matters and between environment and resource portfolios at both Commonwealth and State levels. ANZMEC has made several submissions in recent years to at least 14 different Commonwealth policy initiatives which did not receive any response from environmental portfolios which suggests that ANZMEC/ANZECC consultation is long overdue. (sub. 11, p. 3–4)

However, ANZMEC (sub. 11, p. 4) also noted a number of mechanisms that could enhance intergovernmental coordination, including:

... development of links with other Ministerial Councils. This process has commenced between ANZMEC and ANZECC through a commencement of joint meetings and gaining input on discussion papers.

The Commonwealth's consultation efforts were compared unfavourably to those of the States, with ANZMEC (sub. 11, p. 5) arguing that:

The level of consultation across Commonwealth departments does not appear to be as well developed as it is for the States.

Several participants specifically identified the consultation processes adopted by the National Environment Protection Council as having problems, particularly regarding the time frames for responses to National Environment Protection Measures (NEPMs). For example, ANZMEC (sub. 11, p. 3) stated:

... the National Environment Protection Council sets unrealistically short time frames for comment on the National Environmental Protection Measures.

The WA Ministry of the Premier and Cabinet (sub. 20, p. 2) made similar remarks ‘... the National Environmental Protection Council sets unrealistic time frames for comments on National Environment Protection Measures’.

However, in response to some of these criticisms, the National Environment Protection Council Service Corporation (the secretariat to the Council) noted:

The NEPC is a young organisation ... NEPM development processes were being established simultaneously with the development of the NEPMs themselves, when NEPC was under considerable time pressure to produce outputs (sub. DR71, p. 2).

The NEPC Service Corporation also noted that, following a review of the NEPM development process, improvements have been made.

Other participants argued that communication at ministerial council level was satisfactory. Environment Australia submitted that the situation had improved in recent times as a result of a series of reforms announced by Australian and New Zealand Environment and Conservation Council (ANZECC). ANZECC ministers have agreed to promote more effective coordination by, among other things, exchanging agendas and relevant background papers, and seeking cross representation on appropriate existing advisory groups. However, Environment Australia (sub. DR68, p. 8) also noted that:

While in-principle agreement was obtained to the actions proposed by ANZECC, some [ministerial council] secretariats saw limitations on their capacity to cooperate arising from confidentiality restrictions on the release of forward agendas and associated papers.

The Department of Agriculture, Fisheries and Forestry (sub. DR78, p. 3) also felt that communication between ministerial councils was already occurring :

Ministerial Councils exchange agendas and records of meetings and there is cross-representation on committees/working groups. Many issues, particularly ESD related issues, have been and continue to be considered jointly by Ministerial Councils ...

Similarly, regarding communication between ministerial councils, ANZMEC (sub. DR76, p. 1) said ‘We note that work has commenced in this direction’.

However, ANZMEC (sub. DR76, p. 1) also said:

[since the workshop convened by ANZECC] the Standing Committee of Officials for ANZMEC has agreed to circulate agendas to other Ministerial Councils (including ANZECC) prior to its meetings, to ensure that they are aware of the issues being addressed by ANZMEC. We await a similar decision from other councils.

The NEPC Service Corporation (sub. DR71, p. 4) highlighted the links that exist between the NEPC and other ministerial councils, in particular:

There are clear links between the National Environment Protection Council and the Australian and New Zealand Environment and Conservation Council ... Apart from the New Zealand minister, there is currently 100% overlap in membership between NEPC and ANZECC.

And further (sub. DR71, p. 4):

NEPC has a Memorandum of Understanding with the National Health and Medical Research Council (NHMRC) ... [and] with the National Road Transport Commission.

Some participants also observed that coordination (with respect to particular problems) is sometimes driven by a response to crisis and therefore can suffer from a lack of overall strategy. For example, Environment Australia (sub. 21, p. 6) provided a list of circumstances when effective cooperation has been achieved, one of which included ‘... a sense of crisis with a real threat to community well being if no action was taken’.

There was also a concern that consultation occurs too late in the decision making process. For example, the Minerals Council of Australia (sub. 16, p. 3) said ‘Too often consultation occurs too late in the process to allow issues raised by stakeholders to be incorporated in the policy processes.’

Some recent initiatives in specific areas have sought to ensure coordination between stakeholders. In several of the case study areas examined in appendix D, coordination and consultation structures and mechanisms are an important part of the policy development processes in place. For example:

- regional forest agreements are developed following formalised procedures which involve multiple departments of both Commonwealth and State Governments, and consultation with local stakeholders.
- The Murray-Darling Basin Ministerial Council comprises representatives from all relevant jurisdictions who reflect different portfolios — land, water and the environment. Mechanisms are designed to involve stakeholders in the management of the basin. These mechanisms provide varying levels of involvement for stakeholders — from keeping them informed of progress to allowing them to be more directly involved in decision making (see appendix D).

Effective coordination and stakeholder input

As noted in chapter 6, good practice policy making includes an emphasis on coordination and consultation. Such processes are effective when they meet the

objectives of integrating relevant viewpoints and information, and avoid unnecessary gaps and duplication.

Departments and agencies can benefit from incorporating stakeholder input into decision making, including at the implementation and monitoring stages. There are a number of approaches for doing so. However, as discussed in chapter 5, three broad categories reflecting various degrees of involvement may be identified:

- informing stakeholders — information is readily available to stakeholders with the primary intention of informing them of policy developments, using such means as circulars, mail outs and general advertising;
- consulting with stakeholders — forums are established for stakeholders to provide opinions and responses, including inquiries, meetings and surveys; and
- participation by stakeholders — stakeholders are actively involved in decision making processes, in areas such as identifying strategies and implementing them, through means such as workshops, steering committees and advisory panels.

Although consultation has often been considered the main mechanism for incorporating stakeholder input, some participants argued that it alone can be inadequate and that participation and collaboration might be more appropriate. For example, the Department of Health and Aged Care (sub. 10, p. 2) said:

In order to be successful, ESD must have health involved early and collaboratively in the development of proposals, policies and interventions. All too often health is seen as just one of the stakeholders and is allowed only a limited role through consultation.

In discussing the need for improved coordination, the department (sub. 10, p. 1) also stressed that coordination can often require a number of approaches:

A new and actively collaborative approach is needed to improve our environment and health capacity. A national environmental health strategy is one step in this process ... However, this is only one step and a raft of approaches to increasing the collaborative efforts between health and environment are needed.

The case studies provide a number of examples of consultative mechanisms (see appendix D). In Commonwealth fisheries management, for example, consultative committees are established for each major fishery. These committees play an advisory role and are the main point of contact with each fishery for the Australian Fisheries Management Authority. In another example, regional forest agreements are developed by governments following consultation and negotiation with local stakeholders and other interested parties.

Examples exist also in other areas — such as the water reform framework endorsed by the Council of Australian Governments. In implementing this initiative, State

Governments have sought to involve the public and consult widely. The Department of Agriculture, Fisheries and Forestry (sub. 38, part B2, p. 1) submitted:

In implementing [COAG water reforms] individual jurisdictions have undertaken significant public consultation and participation. For example, the NSW Government has established River Management Committees throughout the State comprised of community representatives ...

Two issues of particular significance in relation to effective stakeholder input (and coordination more generally) are those of developing partnerships with affected parties and promoting public participation more generally. In addition, coordination and consultation activities are not without cost, hence establishing the appropriate level of coordination and consultation is also an important consideration.

Partnerships involving affected parties

Successful models of ESD implementation have often included the establishment of formal partnerships. Partnerships can play an important role in formalising coordination efforts and creating effective channels of communication, not only for information to be exchanged but for ownership and acceptance of subsequent decisions. Examples of such partnerships include the Great Barrier Reef Marine Park Authority and arrangements to manage the Murray-Darling Basin. These partnerships have sought to establish lines of authority and communication, and to provide a framework to deal with issues and concerns. For example, the Natural Resource Management Strategy for the Murray-Darling Basin seeks to establish a framework for cooperation between Federal and State Governments, and other stakeholders including farmers and local governments to address important environmental issues in the basin (see appendix D).

Chapter 5 outlined some key issues associated with incorporating the input of various stakeholders and other interested parties in government decision making.

Other examples of partnership arrangements include the development of memoranda of understanding between key stakeholders. These memoranda can clarify respective roles and responsibilities and mechanisms for coordinating policy development, implementation and monitoring. The Department of Defence has established several of these as part of its environmental strategy (see appendix D).

Partnership arrangements need not be limited to government departments and agencies. Partnerships can also be developed between non-government groups, such as community groups. Such partnerships may aim to foster a greater understanding of relevant issues and viewpoints, and engender local responses to ESD related issues without direct government involvement.

Successful partnerships tend to have a number of common characteristics, which are consistent with the themes of good practice policy making. These include:

- a well defined management strategy;
- clear cut objectives;
- rolling plans which are set up for long time periods;
- an overriding concept of ‘relationship’ between the stakeholders, with equal weight accorded to each partner in the dialogue and decision making process;
- consensus decision making (with provision for an independent arbiter if needed);
- support from an independent office which provides technical advice (for example, the Murray-Darling Basin Commission);
- provision for assessing progress over time through audits or reviews; and
- use of performance targets and indicators.

Public participation

Public participation in explaining policy options, and in implementing and monitoring them, can assist effective coordination by bringing the public closer to the policy making process and gaining their active involvement.

This type of public involvement is generally best initiated as early as possible in the decision making process. As stated earlier, its form can range from public meetings and workshops to disseminate information to mechanisms which involve stakeholders in the decision making process.

There can be clear benefits from involving the public in the policy making process, particularly when complex economic, environmental and social issues are being addressed (box 7.1). Public participation can help policy makers obtain information as well as an appreciation of community expectations. Public participation (even in the form of consultation) is also more likely to result in greater acceptance of policy decisions and greater cooperation in implementation and monitoring:

Public participation is the only way to go. There are so many skills in the public that do not exist in Government Departments or in the private company that is proposing a development ... Public participation has to be an all pervasive thing, from the grass roots of our community structures, right through the whole of the planning and environmental legislation. (Dunphy, quoted in Harding 1998, p. 108)

Moreover, Dovers (1997, p. 86) has said ‘... the more inclusive the policy process, the wider the skills, insights, experiences and body of information brought to bear [on policy making]’.

Box 7.1 Benefits of public participation in policy making

Benefits of public participation include:

- promoting a better understanding of a project, its objectives and likely impacts;
- identifying and addressing concerns of all interested and affected parties;
- providing a means to identify and resolve issues before plans are finalised and development commences, thus avoiding community resentment and potentially costly delays;
- providing other (local and indigenous) sources of information and expertise;
- taking account of the cultural values of different groups of people;
- identifying alternatives to the plans considered for a proposal;
- identifying long term effects of a proposal which may have been overlooked by the proponent;
- focusing planning on issues of concern;
- empowering local communities by giving them some control over decisions that affect their lives — people who help prepare plans tend to support them;
- encouraging transparency and trust amongst stakeholders which promotes cooperation and partnership as suspicion is broken down;
- increasing the chances that the final decision will be acceptable to the general public (that is, reducing opposition);
- improving the credibility and accountability of proposals and decision makers;
- improving the quality of decision making as it ensures that final decisions have legitimacy and validity amongst prominent participants; and
- the public can serve as a ‘watchdog’ — through their close association with a local area or activity, members of the public may observe when detrimental activities are occurring and provide feedback to decision makers.

Source: Harding (1998).

The appropriate level of coordination

As well as providing benefits, coordination entails some costs. The most obvious of these are the resource costs of coordination, both the financial and opportunity costs of all those involved in the process. There may also be costs associated with delaying decision making while coordination processes are undertaken. The key requirement is to balance these costs and benefits and make judgements as to the approaches which are most appropriate in the circumstances.

It should also be noted that coordination does not imply necessarily that the same policy instruments should be applied for the same or similar problems regardless of particular circumstances. It may be appropriate to address similar problems in different ways for reasons related to the surrounding environment or other contextual factors. The use of a range of policy instruments may provide an opportunity for the sharing of experiences and information.

FINDING 7.1

Good practice principles facilitating effective coordination and stakeholder input should be followed routinely as part of the decision making process for policies, programs and regulations likely to have significant ESD impacts. These principles include:

- *comprehensive identification of stakeholders;*
- *opportunity for input;*
- *opportunity for negotiation;*
- *feedback to participants on decisions taken;*
- *access to information; and*
- *institutionalised processes.*

Other ways to improve coordination

Apart from improving the processes departments and agencies adopt to gain input from relevant stakeholders, participants proposed several ideas designed to improve coordination.

Several participants argued for some form of a central body with responsibility for ESD. For example, the WA Ministry of Premier and Cabinet (sub. 20, p. 2) argued:

There is clearly a need to establish an inter governmental cross sectoral body to coordinate implementation of ESD. National coordination for the implementation of ESD used to be through the Inter governmental Committee on Ecological Sustainable Development (ICESD) but since its demise no single organisational structure nationally has the responsibility to coordinate and report on the implementation of ESD or provide cross sectorial [sic] views and a whole of government perspective.

Apart from establishing a new coordination body to undertake a lead role in coordinating ESD issues, existing bodies could be improved upon to undertake such a role. For example, the Australian Industry Group (sub. 12, p. 2) suggested:

The Australian and New Zealand Environment and Conservation Council (ANZECC) could be used far more effectively to ensure coordination and consistency in the application of the principles of ESD.

The South Australian Deputy Premier and Minister for Primary Industries, Natural Resources and Regional Development (sub. 41, p. 5) said:

The South Australian Government values the Ministerial Councils as playing an increasingly pivotal role in defining directions of policies affecting Australia ...

However, the Deputy Premier (sub. 41, p. 5) also noted that ‘... the need remains for the instruments and agencies to be better resourced and empowered’.

Clarifying and restructuring roles and responsibilities between, and across, governments is another possible reform to improve coordination. The importance of appropriately allocating roles and responsibilities was made in several submissions, including Greening Australia Ltd (sub. 6, p. 4):

... the allocation of roles and responsibilities both between the different spheres of government and between government and ROs [regional organisations] is often unclear, leading to tension and conflict which undermine the potential for improved cooperation.

That said, the WA Ministry of Premier and Cabinet (sub. 20, p. 2) supported the existing structure of intergovernmental bodies, suggesting that it was the coordination between the bodies that needed improving:

The current structure of inter governmental bodies is effective, but coordination between bodies could be enhanced, particularly at the Commonwealth officer support level.

Finally, improving the development of long term planning and strategies could also assist coordination, since coordination problems are in part a consequence of a lack of understanding of what departments and agencies are pursuing over time.

The five major ministerial councils relevant to this area — the Australian and New Zealand Environment and Conservation Council (ANZECC), the National Environment Protection Council (NEPC), the Agricultural and Resource Management Council of Australia and New Zealand (ARMCANZ), the Australian and New Zealand Minerals and Energy Council (ANZMEC) and the Ministerial Council on Forestry, Fisheries and Aquaculture — have a crucial responsibility in this regard. Ministerial councils are an important forum for discussion of inter-jurisdictional issues. The Commission acknowledges that recent changes have resulted, in some cases, in improved communication between councils. However, this should be commonplace for all the ministerial councils.

As noted by Department of Agriculture, Fisheries and Forestry (sub. DR78, p. 4):

It is in the interest of all jurisdictions represented on Ministerial Councils that these bodies conduct their affairs as efficiently and effectively as possible. ... the Commonwealth is only one member of these joint State/Territory and Commonwealth

(and New Zealand) bodies but has, and will continue to play a leadership role in many areas, including ESD ...

RECOMMENDATION 7.1

The relevant ministerial councils should routinely, and as a matter of course, inform each other of ESD issues likely to have relevance and implications for other councils.

RECOMMENDATION 7.2

Recognising that all levels of Government have responsibility for ESD outcomes, Commonwealth, State and Territory governments should seek to improve the efficiency and effectiveness of the processes of these ministerial councils with respect to ESD implementation. In particular, the individual councils might ensure they have clearly specified objectives with respect to ESD implementation, and that they are meeting them.

7.2 Improving the information base

A key input to decision making is reliable information to enable both careful definition of problems that are to be addressed and to allow careful definition and assessment of the potential impacts of a particular policy proposal. This was an issue raised by a number of participants. The ABS (sub. 29, p. 1) emphasised the need for reliable information for decision making:

The Australian Bureau of Statistics (ABS) recognises the ESD requirement for the integration of economic and environmental considerations and the consequential need for the integration of supporting information systems.

Collection, analysis and dissemination of data and information relating to performance monitoring is a critical element of good practice policy implementation, and is a part of almost any management system. It provides valuable feedback to decision makers to improve their activities and offers a means of accountability to engender improved performance. Effective monitoring activities will generally need to embrace a range of mechanisms, including performance indicators, audits, reviews and information collection systems, and be well embedded into the broader policy making system. Although the task of adopting effective monitoring systems has begun in several areas of ESD implementation, an assessment of progress so far reveals substantial scope for improvement.

The role of performance monitoring

The role and importance of performance monitoring for economic, environmental and social matters has been well documented. A formal performance monitoring system is considered essential for monitoring progress with economic reforms and for managing many aspects of social policy. For example, the Steering Committee for the Review of Commonwealth/State Service Provision (1998, p. 2) has said:

Measuring the performance of government services is important for several reasons ... assessments of whether the best services are being produced or purchased at the lowest cost, and whether those services are reaching the people who need them most, can be usefully informed by comparative performance information.

It has also been acknowledged that performance monitoring plays a critical role in the management of environmental matters. ISO 14001 notes that measuring, monitoring and evaluating are key activities of an environmental management system. As discussed in chapter 6, monitoring and feedback mechanisms are an integral part of good practice policy making.

Monitoring is important for several reasons, including that it offers governments, stakeholders and the community as a whole:

- Valuable feedback on various aspects of a policy's performance — including the success, or otherwise, of its implementation and outcomes; feedback on decision making and coordination processes and institutions; the continuing relevance of policy objectives; and the efficiency of policy implementation and ongoing activities.
- Enhanced incentives to achieve continuous improvement by encouraging agencies to develop clear and measurable objectives and by providing information on what performance is attainable.
- Public accountability for Commonwealth agencies and their staff which acts as an incentive for efficient and effective performance.

With particular reference to ESD related issues, performance monitoring regimes can also provide a means for:

- undertaking strategic whole of government reviews of ESD performance which can help identify broad policy directions at the regional and national levels; and
- increasing awareness of ESD issues which can help engender public support and participation.

Monitoring is particularly important for ESD implementation as regular feedback to decision makers can be an effective response to the uncertainties which surround ESD — both those regarding environmental impacts and those that can arise

because of complex interactions between economic, social and environmental matters. To deal with this, agencies can implement adaptive management (box 7.2). Adaptive management involves an incremental approach to implementing policy. It relies on continuous feedback of policy impacts to guide further implementation and is consistent with the precautionary principle (chapter 2).

Greening Australia (sub. 6, p. 4) supported greater reliance on adaptive management:

Specific attention needs to be given to developing improved processes of adaptive management and ensuring people in ROs [Regional Organisations] and governments have the opportunity and the skill to learn from their experience.

The role of monitoring systems to help manage risk was highlighted in the report of the Australian National Audit Office (1996c) on environmental management of Commonwealth land:

Box 7.2 Adaptive management

Adaptive management refers to a management system in which monitoring activities are embraced to continually inform and adapt policies and activities. It is a system of continuous improvement where agencies accept, and expect, that policies and activities will not always operate as well as anticipated and that regular monitoring and refinement is an inherent part of the management of such policies or activities.

While adaptive management can be used in any area of management, it is particularly useful in relation to natural resources where scientific knowledge is often limited and is constantly evolving. Indeed, it can be dangerous to prescribe a rigid blueprint for the management of policies and activities where impacts are uncertain.

Noss and Cooperrider (1994, p. 300) provide an example of adaptive management:

Assume that there was strong economic demand for salvaged timber [after a fire or insect breakout], but also a concern about the effects of such logging on the integrity of watersheds. One approach would be to simply forge ahead with massive salvage logging in many watersheds, confident there would be little risk. An alternative approach [following adaptive management] would be to conduct salvage logging in only one small watershed and monitor it carefully along with appropriate control watersheds to determine effects. If results of monitoring showed that there were no serious impacts from salvage operations, then managers could feel more secure in authorising such activities in the future. On the other hand, if damage was detected, only a small area would have been affected rather than entire watersheds. In summary, the risk to the ecosystem would have been minimised, and we would have learned from the experiment regardless of the outcome.

MAB/MIAC [Management Advisory Board/Management Improvement Advisory Committee] also identified the monitoring and review phase as an essential and integral part of the process for managing risk. Few risks remain static monitoring risks and the effectiveness of the risk management strategies and systems that have been established is crucial to address the changing circumstances that might be involved.

This review (ANAO 1996c) also highlighted the important role played by monitoring systems, and their relationship to the overall environmental management system:

... the measurement and monitoring of actual performance should be an integral part of the organisation's management processes.

The importance of monitoring as an element of the overall management of policy development and review was also identified in a number of submissions. For example, CSIRO (sub. 17, p. 12) considered that:

Physical, chemical, biological or socio-economic measures which represent key elements of complex ecosystems or of environmental issues can be a powerful contributor to management processes, allowing description of environmental factors at some point, or as a trend. Better indicators for performance measurement at all levels of government and in the private sector are a continuing important need ...

The current situation

The monitoring of policies, programs and agencies is perhaps the least well implemented element in the overall development and management of policies relating to ESD. In some cases there appears to be more recognition of the role of monitoring than there does implementation of it (see chapter 4). Moreover, the inadequacy of performance monitoring is generally recognised.

Gaps in monitoring and reporting

The general inadequacy of current monitoring and information collection systems was neatly summarised by the Centre for Resources and Environmental Studies (sub. 13, p. 56–57):

There is little argument that, overall, we do not have adequate systems in place to monitor public opinion and understanding of NRM [natural resource management] issues, nor do we have anything like an adequate system of information and monitoring of environmental conditions, resource status and in many cases human interactions with these (esp. of non-traded resources and environmental assets).

Weaknesses in information collection

Another clear message from submissions to this inquiry has been the inadequacy of information, particularly environmental information, that is collected to enable performance of policies to be assessed. This point was made by the Australian Conservation Foundation (sub. 27, p. 6):

For political or economic processes to work properly, the quantity and quality of information about the state of the environment and alternative options for the exploitation of natural resources needs to be greatly improved.

The need for improved social and economic data was also noted. For example, the Australian Seafood Industry Council (sub. 8, p. 8) stated that:

The economic data on the seafood industry is generally poor. ABARE does an excellent job in presenting data on a range of variables but it is constrained by the quality of the data being collected at the State and Territory level.

There were also calls from some participants on the need to ensure that information that is collected is made widely available and is done so as inexpensively as possible. For example, the Environmental Research and Information Consortium Pty Ltd (sub. 18, p. 3) commented that:

There is a tendency by some Departments and agencies (eg. ABS and AGSO) to impose significant data purchase costs and other restrictions (eg. data use licence constraints) on the use of public data. This is a major limitation to the use of public data, information and knowledge in the implementation of ESD.

Environment Australia (sub. 21, p. 10) also raised concerns about restrictions on accessibility to data:

... access to data is often restricted either because of fears that they may be used for political purposes (eg. forests or contamination of seafood) or increasingly because of cost recovery policies. Even where data exist and are available freely it takes resources to extract them, put them into useable form, and analyse and interpret them.

The WA Ministry of Premier and Cabinet (sub. 20, p. 1) said:

At a national level, [various] sectors (agriculture, fisheries, forestry etc) are developing measures of sustainability. These have been developed from different perspectives, starting points, using different frameworks and reporting to different Ministerial Councils. There is a lack of interaction either between sectors and/or the broader state of environment reporting.

Dovers (1999, p. 20) also identified a lack of long term research, as well as shortcomings in monitoring and access to information, as major gaps in the implementation of ESD:

Despite the potential consolidation of existing information through new initiatives such as SoE [State of the Environment] reporting, the NL&WRA [National Land and Water Resources Audit], remote sensing and environmental modelling, and community monitoring, serious long term ecological research and monitoring is a major gap.

These comments from submissions are supported by previous assessments of the extent to which useful information is made available and is shared to assist the implementation of ESD. For example, it has been estimated that there is good or adequate knowledge to allow effective sustainable development of only 10 per cent of fisheries categorised as either ‘over-fished’ or ‘fully fished’ (Ecologically Sustainable Development Working Groups 1991a). Harding (1998, p. v) has also noted that:

At present we are using only a fraction of the bank of environmental management “technology” that is available, principally because institutional, social and economic factors create barriers to greater usage.

The ABS (sub. 29, p. 1) submitted that, while there are data available, several factors limit its usefulness at the present time:

... there is a considerable amount of data available but there are a number of factors affecting its ability to be compiled into an integrated information set suitable for informing sustainable development.

These factors include lack of information on data availability, data comparability, and even lack of knowledge of the existence of data:

Access to data collected for purposes other than statistical ones are often difficult as they are not always maintained in such a way to facilitate access by other potential users. Meta data is not always available and even information on the existence of the data is not readily available. Compatibility between related data sets is often poor as the underlying classifications, concepts and methodologies are not comparable. (ABS, sub. 29, p. 1)

The collection of state of the environment data is a case in point. At the Commonwealth level, there is no formal requirement to produce a state of the environment report on a regular basis. At the State/Territory level, the requirements vary (table 7.1). Consequently, the collection of environmental data tends to be done in an ad hoc way. Environment Australia (sub. 21, p. 10) said:

... environmental data tend to be scattered and decentralised, with every state and every agency tending to maintain its own systems for its own immediate purposes eg. fisheries, minerals, threatened species, air quality, water quality etc. There is little consistency among data to allow for aggregation into a national picture and even comparisons between states can be very difficult.

Table 7.1 State of the environment reporting in Australia

<i>Jurisdiction</i>	<i>Legislative requirement</i>	<i>Reporting frequency (where required)</i>	<i>Last reported</i>	<i>Next due</i>
Commonwealth	No		1996	2001
New South Wales	Yes	2 years	1997	1999
Victoria ^a	No			
Queensland	Yes	4 years	—	1999
South Australia	Yes	5 years (at least)	1998	2003
Western Australia	No		1998	—
Tasmania	Yes	5 years	1997	2002
Northern Territory	No		—	—
Australian Capital Territory	Yes	3 years	1997	2000

^a Public Grants and Estimates Committee of Victoria is currently conducting an inquiry into environmental reporting.

Environment Australia (sub. DR68, p. 10) also emphasised the importance of regular environmental reporting:

Regular SoE reports are an important tool for reporting on environmental trends and on sustainability. As a feedback mechanism over time, their value increases as information in trends is reported.

As a means of providing a regular assessment of environmental trends and sustainability, the Commission believes there may be merit in the production of state of the environment reports on an ongoing basis, and that this should be done for all States and Territories.

RECOMMENDATION 7.3

In recognition of the importance of establishing a consistent data series on key environmental attributes, the Commonwealth Government should commit to producing a state of the environment report on a regular basis (for example, every five years).

Through the appropriate ministerial council — such as the Australian and New Zealand Environment and Conservation Council — consideration should be given to involving the States and Territories in this activity drawing on the mechanisms already in place requiring the production of state of the environment reports in some States and Territories.

Box 7.3 **Environmental management plans**

The main purpose of an environmental management plan is to ensure that all relevant environmental requirements arising during environmental assessment are carried out and that provision is made for ongoing monitoring. In particular, it provides a framework to document the implementation and monitoring of all environmental requirements, including the establishment of baseline data, verification and corrective actions, mitigation and control measures.

The objectives of an EMP are to ensure that:

- negative impacts are eliminated, moderated or managed and that benefits are enhanced;
- necessary monitoring and reporting is conducted; and
- guidance is provided on how to best respond to the information arising from monitoring efforts.

Source: AusAID (1996).

Positive developments

Despite the shortcomings associated with monitoring and the information base discussed earlier, there are several examples where effective monitoring and information systems have been developed, and embraced, and are being further advanced.

One of these positive examples is provided by the Department of Defence (appendix D). It has adopted environmental management plans (EMPs) which generally involve monitoring and reporting, a feedback loop from monitoring to decision making, and a range of other reporting mechanisms (see box 7.3 for a general discussion on EMPs). The department has also committed itself to the development of environmental management systems to build on existing environmental management plans and ensure a global view of performance is attained. As the department (1998b, p. 6) stated:

... both at the portfolio and program levels, management systems are to be in place, maintained and appropriately resourced, among other things, to assist in the dissemination of environmental policy guidance and procedures and undertake regular reviews — via monitoring, auditing and reporting — of Defence's performance against environmental objectives. The review will be conducted at all levels of the organisation and include establishments and operational elements. Independent auditors will conduct many of these reviews.

In recent times, the ABS has also devoted resources to the collection and collation of environmental and sustainability data and to considering sustainable development indicators. In 1995, the ABS commenced a four year program to develop a system of environmental accounts for some natural resources which will be linked to the national accounts. The proposed systems will account for the depletion of natural assets, expenditure for environmental protection and repair, and degradation of the environment. The ABS has stated that these will:

- provide estimates of environmental protection expenditures;
- develop resource, materials and wastes/emissions accounts;
- allow publication of monetary estimates of natural assets which provide economic benefits;
- link flow data from physical accounts to environmental pressure indicators; and
- assess valuation methodologies for environmental degradation (IC 1998).

With respect to sustainability indicators, the ABS is currently drafting a discussion paper which, among other things, will propose a set of indicators. The ABS intends to publish this on a regular basis. The ABS (sub. 29, p. 15) indicated that ‘An exercise ... could be pursued to bring into the public arena a wide range of indicators specifically related to the goals of sustainable development’.

Virtually all environmental and natural resource data are spatially referenced (location is known and can be mapped). The Commonwealth Spatial Data Committee was established in 1992 with the aim of:

- enabling the effective and efficient use and wide dissemination of spatial data through adoption of common procedures, standards and criteria; and
- avoiding duplication of effort and cost in the collection and management of spatial data.

The Commonwealth Spatial Data Committee (sub. DR60, p. 1) submitted that there are significant developments occurring in the field of spatial data collection:

A major recent initiative of the CSDC ... is the development of the Australian Spatial Data Infrastructure (ASDI). The CSDC and the Australia New Zealand Land Information Council (ANZLIC) have been working closely together ... to provide fundamental spatial data needed to support sound decision making ...

Similarly, the Bureau of Rural Sciences (sub. DR74, p. 2–3) submitted:

... we believe that the present coordination mechanisms for biophysical data are working well ... a successful decentralised cooperative model has evolved through the Australian and New Zealand Land Information Council (ANZLIC) for

interjurisdictional matters and the Commonwealth Spatial Data Committee (CSDC) for intra-Commonwealth matters.

In addition to these initiatives, the National Land and Water Resources Audit is another major data-gathering program. It is designed to provide assessments of land, water and vegetation resources and to facilitate improved decision making for land and water resource management. The program is the responsibility of the Minister for Agriculture, Fisheries and Forestry. An Advisory Council is supported by a Technical Working Group, comprising representatives of Commonwealth and State agencies. Working Groups will be established on an ad hoc basis as issues arise. The intention is that activities will be undertaken in cooperation with the natural resource and data management agencies of the Commonwealth, States and Territories.

Regarding the National Land and Water Resources Audit, Environment Australia (sub. 21, p. 10) said:

The Land and Water Resources Audit, in particular the current vegetation initiative being prepared by Environment Australia for the Audit, could provide a practical model for better integration ...

Despite these developments, the overall picture on monitoring is poor with implementation patchy across policies and agencies. This may be due, in part, to the complexity of developing effective monitoring systems covering economic, environmental and social activities, particularly when environmental indicators are in their infancy. Even the relatively recent use of performance indicators across government more generally might explain some of the deficiencies.

Improving monitoring

Submissions to the inquiry have suggested a number of improvements to current monitoring processes.

Best practice systems

One of the recurring themes among suggestions made was the need for departments and agencies to adopt best practice in developing and implementing monitoring systems. While recognising that monitoring systems need to be tailored to particular tasks, there is a need to consider common characteristics of effective monitoring systems (box 7.4).

Box 7.4 Key characteristics of effective monitoring systems

The key characteristics of effective monitoring systems for ESD issues include:

- ☐ performance is measured against clearly defined objectives and outcomes in all relevant social, economic and environmental areas;
- ☐ indicators need to be measurable, representative and as cost effective and practical as possible (however, they should not only be developed for areas that are easy to measure);
- ☐ the monitoring system should be developed early in the decision making cycle and updated as appropriate in the light of experience;
- ☐ information should be shared with other agencies and stakeholders to provide an opportunity to learn from the experiences of others grappling with similar issues;
- ☐ regular reviews of the usefulness of performance information should occur;
- ☐ commitment by policy makers to the monitoring system is required to ensure its effective implementation;
- ☐ support for users of the system through provision of appropriate training;
- ☐ performance indicators should relate to outcomes and outputs as well as inputs or processes;
- ☐ the limitations of indicators should be well understood and reported;
- ☐ performance monitoring tasks should be separated from policy makers, wherever possible, to promote their use as a tool for improving accountability and incentives;
- ☐ stakeholders should be involved in both planning and conducting monitoring wherever practical;
- ☐ consideration of a complaints mechanism for stakeholders to provide feedback;
- ☐ consideration of sunset clauses in policies and programs to ensure comprehensive reviews of policy are conducted;
- ☐ monitoring of environmental issues based on ecosystems rather than geographical or sectoral boundaries;
- ☐ consideration of a full set of reporting options, including reporting in annual reports and agencies' web sites;
- ☐ participating in necessary research, and cooperating with others in these tasks;
- ☐ noting and recording useful lessons in a systematic and accessible manner; and
- ☐ institutionalisation of monitoring systems, including provision of adequate resources and support from upper management.

Source: Adapted from submissions and case studies.

Some agencies also identified that the environmental management system itself should be audited and complemented by audits of individual projects or policies. For example, AusAid (sub. 14, p. 3) commented that it has revised its environmental review process:

An environmental audit is conducted every three years (one will be completed this financial year) and in each intervening year an evaluation of a small group of activities in an environmentally sensitive sector is undertaken.

Education and training

Submissions identified an important complement to the expansion of monitoring systems across government. This was the need to increase departments' and agencies' understanding of the role of monitoring. For example, CSIRO (sub. 17, p. 12) stated:

Better understanding of the benefits, and shortcomings of indicators, and how to use them integrally with the management cycle, is essential.

Coordinating and expanding information collection

As discussed in chapter 5, the Commission has identified several critical issues in relation to research and information requirements. These include that:

- in some cases there is a need to identify and better utilise existing information before embarking on the costly search for additional information;
- additional information required should be carefully identified and defined, bearing in mind program needs and priorities;
- coordination and cooperation in the collection and sharing of information between agencies is critical;
- data collected should be in as standardised a form as practical to permit aggregation and comparisons (in its report on ecologically sustainable land management, the Industry Commission considered that the best way to achieve this is to assign collection to one central agency such as the ABS (IC 1998));
- data collected from one program or process should be made widely available and accessible to other agencies and stakeholders;
- wherever possible, linkages and consistency between environmental data and social or economic data should be encouraged; and
- a commitment to continued collection of the same set of data over time to monitor changes is required to derive most benefit from its collection.

Consistent with the principles of good practice policy making, departments and agencies should regularly, and as a matter of course, monitor the efficiency and effectiveness of their ESD related policies, programs and regulations. As such, the development of performance indicators against clearly stated objectives should occur early in the policy development phase.

In this regard the current processes and the framework of the National Land and Water Resources Audit should be used as a model. A similar framework should be developed to cover areas such as air quality, fisheries, chemicals in the environment, and marine systems. Funding arrangements should reflect the fact that these activities must occur over long timeframes.

The role of the ABS

The Commission considers that there is scope for improving the collection, collation, analysis and dissemination of data relating to ESD issues.

Several participants responded to the Commission's draft report recommendation that related to rationalisation of data collection activities, and an expanded role for the ABS. The Commonwealth Spatial Data Committee (sub. DR60, p. 3), while supportive of the need to ensure that data collection efforts are not duplicated, felt that the expertise of other agencies needed to be recognised:

The ABS ... has an acknowledged role in the development of standard classifications for statistical reporting ... It must be acknowledged however that other Commonwealth agencies ... have expertise in practical scientific monitoring techniques.

The Business Council of Australia (sub. DR79, p. 3) considered that any change to data collection or related activities should not impose any additional reporting requirements on business:

There are ... a plethora of micro reporting requirements and initiatives ... which companies undertake. Any classifications, measurement protocols and data collection approaches should draw on existing reporting processes without imposing additional data collection and reporting on industry.

The Department of Agriculture, Fisheries and Forestry (sub. DR78, p. 5) said:

... there may be a role for agencies such as the ABS in ensuring databases are compatible and other measures to facilitate information sharing. However, it is important to note that data collection should be user driven.

Environment Australia (sub. DR68, p. 9) noted that there are a number of options for the collection and analysis of environmental information:

Broadly, they can be divided into three:

- a decentralised model, with each Commonwealth agency arranging for its own collections of environmental data;
- a centralised model where one central agency takes responsibility for the supply of environmental data to other agencies;
- hybrid models where there is a mixture of centralisation and decentralisation.

There is likely to be a concern for ensuring that quality data are collected on the one hand and that, once collected, the data are made widely available. As noted elsewhere in this report, data collection efforts have been fragmented. Environment Australia (sub. DR68, p. 9) submitted:

Environmental data tends to be scattered and decentralised with every State and agency maintaining systems for its own immediate purposes, such as fisheries, minerals, threatened species, air and water quality. A degree of central oversight is needed to establish strategic data collection priorities, and avoid duplication ... However, centralising environmental data management ... could endanger the quality of environmental data for decision-making.

The Commission's proposals seek to address these issues. It is envisaged that the ABS will have a role as the major coordinating point for data. Recognising that specific expertise lies elsewhere, custodian (or lead) data collection agencies (such as Environment Australia, CSIRO, the Bureau of Rural Sciences, the Australian Geological Survey Organisation, and the Australian Surveying and Land Information Group) would maintain ownership of the data and of data collection activities.

A coordinating role for the ABS is consistent with its charter. Enabling legislation requires the ABS to ensure coordination in the collection, compilation and dissemination of statistics and related information. With regard to its role, the ABS (sub. DR66, p. 2) submitted that it has particular regard to:

- (i) the avoidance of duplication in the collection by official bodies of information for statistical purposes;
- (ii) the attainment of compatibility between, and the integration of, statistics compiled by official bodies; and
- (iii) the maximum possible utilisation, for statistical purposes, of information, and means of collection of information, available to official bodies.

The ABS (sub. DR66, p. 3) also highlighted its existing coordination role in economic and social statistics, noting that it could operate in a similar way for ESD data:

- [ABS role could be] ... 1. As a consultant, to advise on standard setting and support lead agencies developing standards, including advice on international standards.
2. Develop the standards for others to use. In particular, in fields where there is no clear lead agency or where stakeholders request ABS act as an independent agency to broker a solution between a range of stakeholders.
3. Take program responsibility for the development of the standards and the production/dissemination of public interest statistics and/or directories based on them.

RECOMMENDATION 7.5

Data collection relating to ESD issues should be rationalised to avoid duplication of effort in some areas and gaps in coverage in others.

In the areas of the environment, natural resource management and sustainable development, primary responsibility for data collection and the development of environmental and sustainability indicators should remain with the custodian or lead agencies which have relevant expertise, such as Environment Australia, CSIRO, Bureau of Rural Sciences, Australian Geological Survey Organisation, Australian Surveying and Land Information Group, and relevant State and Territory agencies.

The ABS, should work with relevant custodian or lead agencies to develop standard classifications and consistent measurement protocols for the collection of data and information relating to the environment, natural resource management and sustainable development. The collection and dissemination of these data and information should be conducted on an ongoing basis.

The ABS should also have the major coordinating role among the custodian or lead agencies involved in data collection in these areas. In addition, the ABS should have key responsibility for dissemination of data and information collected by itself and other agencies. As such, it would provide a one-stop access point for external users of such data and information.

The current work of the ABS in this area should be given higher priority which may require additional resources.