

INTOSAI



*Sustainable Development:
The Role of Supreme Audit
Institutions*

INTOSAI Working Group
on Environmental Auditing

The Secretariat of the Working Group on Environmental Auditing would like to thank the following Supreme Audit Institutions for translating this document.

Arabic: Audit Bureau of Jordan

French: Office of the Auditor General of Canada

German: Austrian Court of Audit

Spanish: Office of the Auditor General of the Republic
of Columbia

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INTOSAI Working Group
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2004

Foreword

Sustainable development is a concept that, over the last two decades, has gained in acceptance and understanding to the point where it is now a major consideration in government planning and policy making. Sustainable development reconciles three areas of human activity—society, the economy, and the environment—by proposing a concept of development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

In 1992, 105 nations endorsed the Rio Declaration on Environment and Development and committed themselves to integrating the principles of sustainable development in their activities. These principles were given fresh impetus at the 2002 World Summit on Sustainable Development in Johannesburg, South Africa. Through their monitoring of national strategies and programs, Supreme Audit Institutions (SAIs) play a vital role in informing and supporting efforts to achieve sustainable development.

Sustainable Development: The Role of Supreme Audit Institutions offers an overview of the concept of sustainable development and includes practical guidance to SAIs on how to integrate sustainable development into their audit work. The paper is available in all INTOSAI languages and can be found on the WGEA Web site (www.environmental-auditing.org).

The paper, authored by the United Kingdom National Audit Office (NAO) and the Canadian Office of the Auditor General (OAG), was first presented by the Working Group at the XVII International Congress of Supreme Audit Institutions (INCOSAI) held in Seoul, South Korea, in 2001. A revised version of the paper was presented at the 2002 London, England, meeting of the WGEA Steering Committee. The Steering Committee accepted the draft and proposed that the paper be approved by the WGEA and submitted for adoption as a formal INTOSAI document.



In June 2003, the WGEA Assembly unanimously recommended, at its eighth meeting held in Warsaw, Poland, that the paper be proposed as a formal INTOSAI document. In October 2003, the INTOSAI Governing Board was informed of this proposal. The Governing Board approved the distribution of the paper among INTOSAI members for comment and review prior to its submission for adoption as a formal INTOSAI document at the upcoming October 2004 XVIII INCOSAI in Budapest, Hungary.

We would like to thank the authors of this paper, Joe Cavanagh, Peter Gray, Chris Shapcott and Sarah Billiald from the NAO, and Wayne Cluskey from the OAG, for their dedicated work. Finally, we extend our thanks to the members of the WGEA and other SAIs for their contributions to this paper.

Sustainable development presents new challenges to SAIs. We hope that Sustainable Development: The Role of Supreme Audit Institutions will provide them with the basic understanding and insight they need to audit how governments make sustainable development an integral part of their activities.

Sincerely,



Sheila Fraser, FCA
Chair of the INTOSAI WGEA
Auditor General of Canada



Johanne Gélinas
Associate Chair of the INTOSAI WGEA
Commissioner of the Environment and
Sustainable Development
Office of the Auditor General of Canada



Preface—the objectives and structure of this paper

Sustainable development is a term that will be familiar to some auditors and Supreme Audit Institutions (SAIs), and unfamiliar to others. This paper sets out to explain the concept of sustainable development. It also assesses the role that SAIs might play in auditing national progress towards sustainable development. The paper comprises four parts:

Part 1 provides essential background. It defines sustainable development as development that reconciles social, economic and environmental objectives (three objectives). It provides an overview of how the concept of sustainable development may be reflected in the strategies, policies and operations of governments and individual agencies, and how it affects SAIs, as a prelude to Parts 2 to 4.

Part 2 explains how governments have set about developing frameworks and national strategies for pursuing sustainable development objectives, and considers the opportunities these might offer to SAIs for review.

Part 3 examines how the concept of sustainable development has been applied to individual policies or programs, and the role played by SAIs in auditing how well this has been done. This Part concludes by considering the prospects for looking at the links between economic, environmental and social issues.

Part 4 considers the steps SAIs may need to take to develop their ability to undertake audits in the field of sustainable development.

By endorsing the Rio Declaration 105 countries committed themselves to making sustainable development an integral part of their activities. SAIs can have a key role in monitoring the implementation of national strategies and



progress made. This paper provides a guide as to what may be possible, combined with practical examples drawn from the experience of a range of SAIs. We hope it will help SAIs meet the challenges posed by this most important issue.



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Part 1. Background

The origins of sustainable development

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs

1.1 Although there is no single definition of sustainable development, the concept of sustainable development was first popularized by the 1987 report of the World Commission on Environment and Development, entitled “Our Common Future” (generally referred to as the Brundtland Report). The Commission defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

It involves the integration of social, environmental and economic objectives

1.2 Sustainable development involves the integration of social, environmental and economic objectives. Ideally, of course, any policy or human activity should bring about an improvement in all three objectives. However, progress on one front may be achieved at the cost of damage on another. Wherever possible, decisions should take into account the costs and benefits on all sides. The Commission's definition also brought out the concept of sustainability that is fair to generations present and future; that today's generations should not achieve economic progress at the expense of the prosperity of future generations.



It has a global dimension

1.3 While strategies are often devised at a national level there is also recognition that these are global problems which require global solutions. Environmental issues know no geographical boundaries. Issues such as poverty and social injustice are global problems regardless of the geographical areas in which they may be concentrated. National economies are becoming increasingly interconnected. A quarter of global output is traded between countries: trade flows have increased 17-fold in 50 years.

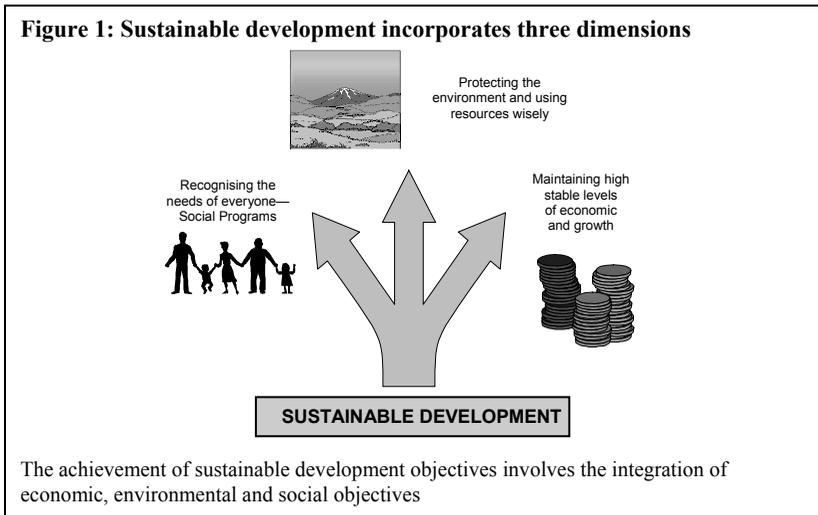
1.4 The growing international attention to the links between social, economic and environmental issues was most prominent in the 1992 UN Conference on the Environment and Development (the "Earth Summit") held in Rio de Janeiro. This conference was a major milestone in a global effort to deal with global problems: 105 countries endorsed the Rio Declaration. Governments also committed to an action plan for the 21st century—Agenda 21. One hundred and sixty-eight countries signed the Convention on Biological Diversity which requires countries to identify and monitor their genetic resources and to produce plans for conserving them including setting up protected areas. In 1997, 166 delegates to the UN Framework Convention on Climate Change signed the Kyoto Protocol that committed signatories to reducing or limiting emissions of several greenhouse gases.

1.5 Nations gathered again at the World Summit on Sustainable Development in 2002 in Johannesburg, South Africa to review progress made since Rio and to develop a plan for future action. The Summit resulted in two key products—the Johannesburg “Declaration” and the “Plan of Implementation”. The Declaration is a high-level political communiqué agreed to by Heads of State. The Plan of Implementation is a more detailed and descriptive manifesto of objectives and promises, addressing areas such as poverty eradication, protection of natural resources, energy, health, environmental technologies, and governance. In this Plan, governments have re-affirmed their commitment to the Rio principles and Agenda 21. The Plan is especially important for SAIs because it provides criteria that could form the basis of future audits.



It goes beyond a sole concern for the environment

1.6 How is sustainable development different from a concern for the environment alone? They have much in common. Clearly, environment is one of the three fundamental concerns of sustainable development. However, sustainable development does not treat the environment as an absolute that is inviolable. Instead, sustainable development recognizes that there may need to be a balance or trade-off between economic and social progress and the environment, governed and constrained by the concept of sustainability (Figure 1). In general, though, economic or social progress should not destroy what is valuable and cannot be replaced, or prevent future generations from using the same resources for their development or enjoyment.



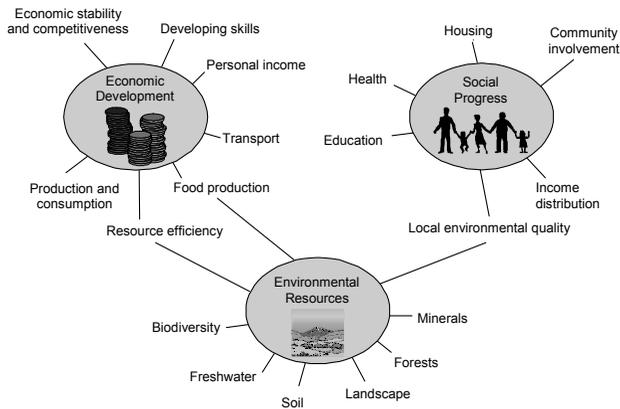
There are different interpretations of the scope of sustainable development and the weight to be attached to economic, environmental and social concerns

1.7 It is easy to see that sustainable development is a very fluid concept. There are many ways in which governments and individual commentators will disagree as to its scope. In particular, broader interpretations of

sustainable development extend to social objectives, including social equity and the distribution of wealth and opportunity. Furthermore, there is plenty of room for debate about the importance to be attached to each objective of sustainable development.

1.8 In more practical terms, a broad interpretation of sustainable development is likely to encompass a very wide range of issues. Figure 2 illustrates the potential scope of this concept.

Figure 2: Sustainable development encompasses a wide range of issues



Note: this figure is not exhaustive, many of the issues shown here are interrelated. It is therefore not possible to show all the linkages that might be possible.

The concept of sustainable development is potentially relevant to a very wide range of issues

Sustainable development and governments

Governments create the framework for achieving sustainable development

1.9 Governments have a key role in promoting sustainable development. They are responsible for setting the direction, making policy and providing co-ordination. They represent the nation's interests in international



negotiations that affect development and the environment. They enter into commitments, for example to prepare national programs to contain greenhouse gas emissions or to promote sustainable development. They develop strategies for putting these commitments into action. Part 2 of this paper considers the role SAIs may play in evaluating the effectiveness of these frameworks and strategies.

They develop environmental policies and programs

1.10 In developing sustainable development strategies they have a number of policy tools at their disposal to influence sustainable development. These include tax policies, which can act as economic incentives or disincentives; legislation and regulation to promote good practice and discourage bad; and direct expenditure programs, which seek to balance environmental concerns with social and economic needs (for example, transport and planning). Governments may also need to ensure that wider economic, health and education policies also promote the objectives of sustainable development. Where SAIs have a mandate to look at budget proposals, these should be scrutinized with a view to looking at the balance achieved between social, economic, and environmental issues. Part 3 of this paper considers ways in which SAIs may audit sustainable development at the program level.

They make sustainable development an integral part of their own policy making

1.11 Many governments have sought to integrate environmental concerns within the wider context of government. Often referred to as the “greening of government”, the objective is to ensure that environmental concerns are integrated within wider policy considerations. Requiring all new policies to be assessed for potential environmental effects, or environmental appraisals of road construction projects are examples of this approach.

***Governments may also “green”
their own operations***

1.12 Governments can also reduce the environmental impact of their own operations. Some national and regional governments will have made a conscious effort to “green” their operations both to contribute to the national strategy and to motivate businesses and individuals to follow the government’s example. Often known as “green housekeeping”, initiatives focus on issues such as reducing waste and conserving energy, for example, by the design of government buildings. These initiatives are considered in more detail in Part 3.

How sustainable development affects SAIs

***Sustainable development is important to SAIs
because it is important to the bodies they audit***

1.13 Sustainable development is important to SAIs because it is important to the bodies they audit. The constitutional role and mandates of most SAIs do not permit them to set policy; only to audit its implementation. This paper therefore does not suggest that SAIs should be champions of sustainable development regardless of their government’s or legislature’s position. The scope to do useful audit work in this area will be limited by the extent to which the government or agency has embraced the principles and practices of sustainable development. In most cases, though, acceptance of sustainable development principles and practices is becoming more and more widespread, especially at the level of national government.

***Scope for the audit of sustainable development
will depend on the SAI’s mandate***

1.14 The wide scope of sustainable development, and the strategies and policies that flow from it, provide plenty of scope for audit. Some SAIs have a specific mandate in respect of sustainable development or the environment.



Some will have mandates that are confined to financial or compliance audits, while others will extend to performance audit or comprehensive audit. Some mandates will be entirely retrospective while others require or permit pre-audit or audit of the budget. Some will be limited to national government; yet others will extend to regional and local government and to state-owned enterprises. This paper therefore sets out a range of options from which SAIs may choose, according to their mandate and priorities.

***Audits of sustainable development should
be subject to the usual audit standards***

1.15 Audits of sustainable development should follow all the usual standards followed by the SAI, for example those established by INTOSAI and any national standards. While sustainable development might be more complex than many other audit topics, for the reasons explained above, this should not mean that the standards for planning, gathering evidence, analyzing and reporting can be relaxed.

1.16 Standards and other evaluative criteria are important here. Any audit is essentially a comparison of what is with what should be. This is based on some agreement on standards between the auditors, the audited organizations and the stakeholders who depend on the auditors for assurance. In sustainable development those standards may originate in international accords or legislation, national legislation, program promises and commitments, operational standards adopted by the audited body or generally accepted procedures and practices in other organizations with similar activities. These criteria should be discussed with the audited organization, and wherever possible, auditors should use criteria developed by or accepted by the audited organization itself.

1.17 Part 4 of the paper looks at how SAIs can build the capacity to conduct sustainable development audits. It suggests that by breaking down this process into separate steps an SAI can manage the transition to effective sustainable development audits.

Note: A Glossary of Terms is provided at the end of this paper.



Part 2. Sustainable development at national and regional level

2.1 Part 2 explains how national and regional governments may implement strategies and policies for sustainable development, and the opportunities this might open for scrutiny by an SAI. Most of what follows relates to national governments and action at national level, but most of it will be equally applicable to regional or local governments that are responsible for co-ordinating and directing policies affecting the environment and economic and social development in their locale.

Sustainable development strategies

Many governments have established national strategies for sustainable development, following the 1992 Earth Summit

2.2 Agenda 21 recommended, among other things, that nations should develop sustainable development strategies. Many governments have now done so (see Figure 3). These strategies are intended to provide a cohesive, national approach to sustainable development, to set a direction for the country to follow, and to help meet the targets set by international accords.

2.3 Strategies will vary in quality. Some may simply parade or re-present existing policies, with no underlying change; whilst the best strategies attempt to reconcile economic progress with environmental thinking in a genuine search for integration and sustainability.



2.4 Strategies typically comprise:

- An overarching framework of strategy, co-ordination, monitoring and reporting on progress.
- Specific policies or programs to address sustainable development, for example, pollution prevention and control, or those which must reflect sustainable development thinking, for example, transport.

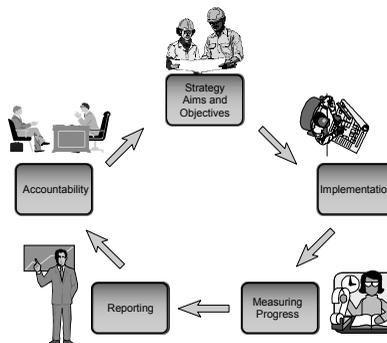
Figure 3: National strategy for sustainable development in Canada

The Federal Government in Canada has developed an overall framework within which to pursue its sustainable development objectives. Included in the framework is a requirement that individual departments should publish their own detailed strategies. These strategies are intended to outline departments' goals and action plans for including sustainable development in their policies, programs and operations. The strategies are intended to provide the benchmark against which progress will be measured.

2.5 If their mandate allows, an SAI may scrutinize the specific policies such as transport, water, housing, forestry, which provide the building blocks that make up the strategy. We consider this in more detail in Part 3.

2.6 A sound national framework is likely to follow the performance management cycle (Figure 4), often known as the “plan, do, check and improve” approach. The cycle moves from strategy and objectives via implementation through to reporting and review of progress.

Figure 4: Performance management cycle



A robust sustainable development strategy will have arrangements for implementing the objectives, measuring progress, reporting performance and ensuring accountability

***Similar strategies and reporting arrangements
may well be found at regional or local level***

2.7 While local and regional governments do not sign international accords, their work might be expected to complement them and contribute to their achievement. A recommendation in Chapter 28 of the Agenda 21 document was that local governments and authorities should play their part in promoting sustainable development. This initiative, “Local Agenda 21”, was regarded as an important vehicle for change, encapsulated in the phrase “think global, act local”.

2.8 Local Agenda 21 recommends that all local authorities should consult their populations to create a local sustainable development plan. While each plan will have its own distinct character shaped by local conditions, there are common factors that should be present in any such process:

- It is not just an environmental strategy, but it should also include economic and social issues.
- It should *involve the whole community* or at least the widest possible cross section with the resources available.
- The first stage is to *gather information* about local conditions and priorities.
- Then a *strategy* is identified involving specific actions.
- Finally it is important that *indicators which measure progress* are established.

Figure 5: Norwegian local sustainable development strategies

In 1993 local government bodies in Norway were required to convert their environmental and resource management plans into plans of action for the 21st century. A number of development programs based on a reform called “Environment Protection at Local Level” were initiated. One key program aimed to develop the tools used by local government to make environmental impact assessments, in particular long term impacts. A further project sought to improve communication between local government and the public on sustainable development issues.



Scope for audit of sustainable development strategies

SAIs may look at how the strategy is set

2.9 The scope for performance audit of national and local sustainable development strategies is very wide. Some of the potential lines of audit are listed below. They are organized under headings that follow the performance management model set out in Figure 4. The list below attempts to break down relevant audit questions to manageable proportions although some questions will be more straightforward to answer than others.

Audit Issues: sustainable development strategies

- Does the government have a strategy or plan that clearly describes its objectives?
- Does the strategy conform to the government's international commitments?
- Does it clearly identify the policy instruments to be used to achieve the aims?
- Is the strategy and choice of policy instruments based on good data about what needs to be done?
- Is the strategy truly integrated, reflecting the interactions between policies, and the balance to be struck between economy, society and the environment?
- Does the strategy set out any barriers to its implementation, either externally or internally?
- Has the strategy, as far as possible been translated into targets and timetables?
- Where budget proposals are scrutinized by the SAI, what is the total budget for 'sustainable development' and what proportion of this is allocated to 'green issues'?
- Has the government established an efficient information system for reporting the results of implemented strategies to Parliament?
- Has the government established a way to inform citizens of sustainable development strategies and their progress?
- Has the Government evolved any system to monitor and co-ordinate the activities of NGOs working on environmental issues?

2.10 While it may be difficult to audit the government’s strategy against any firm audit criteria, it may well be possible to examine the success with which government bodies are integrating a sustainable development approach to their day-to-day decision making. Working alongside government bodies, and looking at comparisons on the international stage and other large organizations, the SAI may help strategic decision-makers within government to identify and disseminate examples of best practice.

Figure 6: Reporting on environmental spending in Norway

In 1989 the Norwegian Government introduced an account of overall environmental policy and expenditure to the Norwegian Parliament. The Office of the Auditor General of Norway investigated this account for 1997 and 1998.

A summary of the grants related to environmental policy is a useful tool. However, it is important to have a system that can ensure an accurate account of total government spending on environmental measures. The audit showed that grant figures had not been calculated in a consistent manner across the ministries investigated. The audit also revealed that the Government had difficulty in classifying environmental measures by the “result categories” used by the Ministry of the Environment. This occurred mainly because a measure can serve different environmental purposes (and therefore fit several “result categories” simultaneously).

The government needed to improve its procedures in developing a new “Environmental Profile and Environmental State of the Nation”.

Sustainable development targets and indicators

*Measuring performance and progress
will be a key area for audit*

2.11 A good strategy for sustainable development is likely to include or be accompanied by a set of targets for what needs to be achieved and indicators which measure progress towards meeting those targets (see example at Figure 7). [Note: we use the word 'indicators' here to denote



both performance measures and indicators¹]. In some cases, the targets may seek to put into effect commitments made by national governments as signatories to international treaties. Indicators are often a vital link to ensure that governments are held to account for their performance against their sustainable development objectives. The targets and indicators are therefore likely to be an important area for SAI scrutiny.

Figure 7: Development of indicators in the United Kingdom

In 1999 the United Kingdom Government revised the national indicators of sustainable development following consultation with interested parties and further research. “Headline” indicators were established to give government a high level overview of progress and to simplify the message for the public. These headline indicators are:

- Total output of the economy (GDP);
- Investment in public, business and private assets;
- Proportion of people of working age who are in work;
- Qualifications at age 19;
- Expected years of healthy life;
- Homes judged unfit to live in;
- Level of crime;
- Emissions of greenhouse gases;
- Days when air pollution is moderate or high;
- Road traffic;
- Rivers of good or fair quality;
- Populations of wild birds;
- New homes built on previously developed land; and
- Waste production and management.

¹ Measures refer to direct measures of the thing being studied—for example, the number of trees planted. In contrast, indicators are indirect measures of the thing being studied or reported for example, the concentration of noxious gases as a measure of air quality. In the field of environment many things cannot be measured directly but must be measured indirectly, and hence we use the term “indicators” here.



Progress against these indicators is reported annually. The first assessment against the new headline indicators was published in December 1999 and identified increases in journey length and household waste, increases in the level of violent crime and a loss of species and habitat as potential areas for concern.

These headline indicators are supported by a comprehensive set of around 150 detailed indicators grouped into families. For example, while water has the headline indicator “rivers of good or fair quality” there is also a set of related indicators which cover nutrients in water, water demand and availability, water affordability, water leakage, volume of water use and sites affected by water extraction.

Scope for audit of sustainable development targets and indicators

2.12 Targets and indicators allow SAIs to audit three broad areas:

- an audit of targets, to see if they are realistic and are based on a proper understanding and evidence about what needs to be done,
- an audit of indicators, to see if they are relevant and reliable, or
- an audit of the progress revealed by comparing indicators with their associated targets.

Before embarking on a review of the targets and indicators, SAIs will need to ensure that they have sufficient expertise on hand to enable them to answer the audit questions they wish to pose. In reviewing the relevance and reliability of any targets and indicators used, the SAI will need to develop and use suitable audit criteria.

*Targets for sustainable development
might be subject to audit*

2.13 Targets need not be set for every indicator, it is probably better for policy makers to focus on a small number of key targets and to seek desirable trends among indicators without targets. Targets may be based upon established science and well-understood processes. This could be used to set a sustainable reference value, for example, the level of fish stocks that can be maintained. It is more likely, however, that the targets represent an



international agreement or compromise that represents no more than an aspiration or desirable direction of change. Targets may be set for the end-state or outcome desired, for example clean air, or the underlying cause or activity, such as, to reduce car usage, or the extent of remedial action, for example, the number of prosecutions of polluters or miles of river subject to clean water regulations. There are no established criteria for judging the sustainable development targets set by government. However, based on work undertaken by the United Kingdom SAI, there are some basic questions that might be auditable.

Audit issues: targets for sustainable development

SAIs might look to see whether targets:

- cover key areas;
- reflect international commitments;
- are directly linked to the objectives and indicators developed by Government;
- are based on a clear rationale, for example a sound scientific understanding of the underlying problems and their causes;
- are based on a sound measurement of the existing baseline, where one is used; for example, to reduce emissions of carbon dioxide by 3 per cent from 1998 levels;
- are time limited, with milestones for those targets extending far into the future;
- are based on a measurement plan, established when the target was set, which specifies how progress will be measured, how often it will be measured, and who will carry out the measurement;
- are measurable within the limits of uncertainty imposed by the data, for example, SAIs might expect margins of error to be published alongside any reports on actual performance;
- are communicated to key players appropriately;
- are matched by appropriate action plans and resources;
- are reported alongside performance against other indicators and targets to enable citizens to judge performance on a sufficiently broad basis.

The audit of indicators may well be worthwhile

2.14 When considering sustainable development indicators, much of the standard thinking already applied by SAIs to performance measurement can be used, but additional issues will need to be taken into account. For many natural systems, for example, the measurement of progress may not be a trivial task. To illustrate this, the measurement of pollutants in the atmosphere will be affected radically by where measurements are taken, the prevailing weather conditions and how reliable the measuring equipment is. Clearly, if progress is to be monitored in a consistent way, a lot of thought will need to be given to the best way to track progress. In other cases, the studied phenomenon may be subject to a slow rate of change and therefore reporting at five to ten year intervals may be appropriate. SAIs will need to be aware of these practical issues when considering the reliability of the measurement and reporting arrangements used by governments.

2.15 The Organization for Economic Co-operation and Development (OECD) has published a useful listing of desirable characteristics for indicators of sustainable development, which might in turn be considered by SAIs when looking at national indicators.

Figure 8: OECD guidance on sustainable development indicators

Audit issues: indicators of sustainable development

SAIs might look to see whether indicators:

- have *policy relevance*, which means that they must:
 - be easy to interpret;
 - show trends over time;
 - respond to changes in driving forces; and
 - have threshold or reference values against which progress can be measured.
- are *analytically sound*, for example based on a clear understanding of the goal of sustainable development;
- are *measurable*, that is, no matter how attractive the theoretical construct, if an indicator cannot be measured at reasonable cost, it is not useful.

Information on OECD publications relating to the environment is available at www.oecd.org/env.



*SAIs may also want to look at the progress
revealed by targets and indicators*

2.16 Finally, if targets and associated indicators are found or thought to be technically sound, the SAI may review the progress they reveal.

- If the deadline for a target has already passed, an audit can simply comment on whether the target has been achieved. Audit attention can then shift towards explaining why the target has or has not been achieved, or the cost and efficiency of the policies used to attain the target, or any unintended consequences of those policies.
- If the deadline is still some way off, then an audit should focus on whether the target is likely to be met. This is a more difficult concept to apply, because the latest position or even the current trend may not be indicative of what might be achieved in the time remaining before the deadline. It may be that policy instruments have not yet had their impact on this longer-term trend, or there may be other underlying trends that will affect the outcome. The SAI may therefore need to limit its opinion as to whether the target will be achieved if current trends continue, which is a safer audit assertion. As before, the SAI may also look at the reasons behind progress or the lack of it, the success of the policies which are intended to achieve the target, any unintended consequences, as well as looking at what remains to be done if the target is to be achieved.

Green housekeeping and environmental management systems

2.17 Beyond devising national strategies to promote sustainable development across the wider economy, government institutions can also help by limiting the environmental impact of their own activities. Green housekeeping by central and local government normally focuses on reducing the use of energy and water and the development of recycling and waste management systems to minimize environmental impact. By adopting green



housekeeping, governments can contribute to the goal of preserving non-renewable resources and reduce running costs.

An environmental management system can help organizations carry out their environmental responsibilities in a cost effective way

2.18 Green housekeeping, whether by government or the private sector, may include the adoption of ‘environmental management systems’. These are managerial frameworks and associated processes designed to ensure that environmental and sustainable development concerns are reflected in day to day decision making.

2.19 There is international recognition that the achievement of sustainable development depends on integrating a concern for the environment into management at the corporate, project and site levels. The development by the International Standards Organization of the ISO 14000 series allows governments and their agencies to focus environmental efforts by following criteria that are internationally accepted. The aim of the ISO 14000 series is to promote a common approach to environmental management and enhance the ability of organizations to attain and measure improvements in environmental performance. The standards apply to all types of organizations and are designed to include different geographical, cultural and social conditions. Within the ISO 14000 series ISO 14001 gives standards for an environmental management system, of which the key elements are:

- An environmental policy and the requirement to follow this policy via objectives and targets;
- An analysis of the environmental aspects of an organization’s procurement, processes, products and services;
- Checking and corrective action including the monitoring of, measurement and recording of activities that can have a significant impact on the environment;



-
- Review of the environmental management system by the organization's top management to ensure its continuing suitability, adequacy and effectiveness; and
 - The concept of continuous improvement.

More information on the ISO 14000 series is available at the following ISO Web site www.iso.ch.

Figure 9: Environmental management systems in state-owned enterprises

The Austrian SAI tries to promote environmental management systems in state owned enterprises which accord with either international standards such as ISO 14001 or the European Union's Eco-Management and Audit Scheme, EMAS. In its reports the SAI points not only to the environmental advantages of implementing such systems but also to the economic advantages and the positive impact on staff motivation. The Austrian SAI also promotes related techniques such as "Integrated Resource Planning" and "Least Cost Planning" in the energy supply sector.

In Iran, many government-owned companies have received ISO 14001 accreditation, under the supervision of the Department of the Environment.

2.20 In addition to the ISO 14000 series, which is an international standard, there are regional and national standards for environmental management systems such as the European Union's Eco-Management and Audit Scheme and those of the Canadian Standards Association.

Figure 10: Environmental management in South Africa

The South African Government has formulated its overall policy in the White Paper on Environmental Management in South Africa, which led to the approval of the National Environmental Management Act of 1998 (NEMA). The Act requires the major role-players to submit environmental management plans and to report on an annual basis on environmental management. The Act requires that the emphasis should be on managing a balance between reducing poverty and sustainable development.

Scope for audit of environmental management systems

An SAI might look at the take-up and application of environmental management systems

2.21 An environmental management system is a cyclical process of plan, implement, check, review, and continuously improve. As such, the focus of SAI audit will be on process rather than outcome. The type of questions SAIs may wish to address include the rate at which government departments adopt the environmental management system, whether the schemes have been applied properly and what lessons are emerging from audits of systems currently in place.

Audit issues: environmental management systems

- To what extent are environmental management systems in use?
- Are these management systems accredited to internationally recognized standards, for example, ISO 14000 or EMAS?
- How well are the systems applied?
- What do audits of these environmental management systems reveal about the extent to which environmental issues are integrated into departmental planning?
- Do the environmental management systems address all the issues related to the environmental problems identified?

Accountability and reporting for sustainable development

SAIs may also look at the quality of reporting and accountability for progress

2.22 The arrangements used by government for reporting performance should clearly indicate the extent to which objectives are being met. Ideally, performance measurements should be brought together and reported at



regular intervals to enable the reader to understand the trade-offs being made between different objectives.

2.23 Drawing upon their experience in auditing financial information, SAIs could have an important role in encouraging better reporting standards. Issues likely to be pertinent to sustainable development may include, for example:

- a need for greater consistency in how performance is reported from one time period to the next;
- a need to report variances against expected performance and any limitations associated with the information to be explained; and
- a need for particularly important issues to be brought to the attention of the legislature.

Audit issues: accountability and reporting

- Are the results being reported in a timely, accurate, understandable and relevant manner?
- Is there a person or office that is clearly accountable for the results?
- What do the reviews show about the progress that has been made towards national targets?
- Are the conclusions, recommendations and lessons learned acted upon?
- Are any shortfalls in achievement or progress clearly explained and justifiable?

*Natural resource accounting
has a place here too*

2.24 Another important element in the accountability chain in the future is likely to be the development of natural resource accounting. Natural resource accounting compiles data relating to natural resources (organized in terms of stocks and flows) within an accounting framework. They are often compiled as an adjunct to the national accounts. In general terms, natural



resource accounting can be seen as an important means to demonstrate the links and trade-offs between the environment and the economy.

Figure 11: South African SAI involved in devising Natural Resource Accounts

The South African SAI is represented on the working group developing National Resource Accounts (NRA) for South Africa, which is currently devising methodologies to compile such an account for water. It is intended for this account to feed into several sustainable development strategies and initiatives, once it has been compiled.

Some SAIs may have a remit to audit natural resource accounts

2.25 There is now widespread international support for the concept of natural resource accounting. Among the international organizations involved are the United Nations, the Organization of Economic Co-operation and Development (OECD) and the World Bank. The INTOSAI Working Group on Environmental Auditing has produced a paper on Natural Resource Accounting and its relevance to SAIs. Some SAIs may have a mandate to audit these accounts, or to comment on them.

Conclusion

2.26 In this part we have seen that sustainable development may feature at national or regional level in many ways which provide scope for the SAI to do useful work. This scope will be determined mostly by the extent to which government has adopted the principles and practices of sustainable development. Where the government has a strategy together with measures of performance and systems to deliver that performance, the job of the SAI is made easier. In the absence of such frameworks, the SAI may have to limit itself to audits of individual programs, which are covered in the next Part of this guide.



Part 3 Sustainable development at the program level

In this part we look at how SAIs might examine sustainable development at program level

3.1 In Part 2 we examined the strategic framework governments may develop in pursuit of sustainable development, and the opportunities this provides for scrutiny by SAIs. In this part we look at how SAIs might examine how sustainable development is reflected in individual policies or expenditure programs.

Programs and sustainable development

Many programs are affected by sustainable development

3.2 To be effective, sustainable development strategies need to be followed through into the objectives and targets set for individual programs. A commitment, for instance, to reduce carbon dioxide levels in the atmosphere might, for example, be reflected in;

- the limits set for emissions from heavy industry;
- tighter regulation and testing of car emissions;
- measures taken to discourage the use of cars; and,
- conceivably, a whole range of other policies.

As shown in Part 2, there are many areas of policy and many individual programs that are affected by sustainable development concepts and concerns.



Figure 12: Forest management in Peru

The SAI of Peru carried out an environmental management audit in 1998 of a Forest Management Project in the Alexander von Humbolt National Forest.

The aim was to verify that the forest was being protected from agricultural exploitation, that public access was being respected and that logging conformed to the International Convention of Tropical Woods agreement on sustainable forestry activities. The audit revealed a number of serious difficulties with the project including:

- Inadequate control of timber extraction- the project lacked the necessary human and logistic resources to maintain effective control of forest resources.
- Although the terms of reference on environmental impact were laid out in advance, much of the environmental preservation program was not in fact carried out.
- Forty per cent of the land assigned to the project was held by native peoples who did not support the objectives of the project.
- There were inadequate criteria for evaluating the efficiency and control of forestry projects.
- There was weak financial control relating to the sale of wood.

In some programs, sustainable development is a big issue

3.3 Programs where the trade-off between economic, environmental and social objectives is likely to be most noticeable and acute include, for example, road building, fishing, timber production, agricultural subsidies and power generation. In these sectors, the different objectives may work against each other. However, in other programs, for example, measures to improve energy efficiency, the economic, environmental and social objectives may coincide and reinforce the pressure for change.

There are a variety of ways in which environmental concerns may be reconciled to economic or social goals

3.4 For some programs, the trade-off between economic, environmental and social objectives will already be implicit in the objectives and targets set



by government. In these cases, governments will have made the decision on which trade-offs should be made. For example:

- Emissions from cars—the targets set by government for manufacturers will reflect a political judgment of what is needed to meet environmental objectives, balanced against the economic cost to industry and car-users, and the social impact on communities of increased travel costs.
- Fishing quotas—the quotas set will reflect judgments made by politicians about the level of fishing that might be sustainable in the longer term, taking account of the economic and social impact on local fishing communities, and scientific advice on the sustainability of existing stocks.

Figure 13: Conflicting Sustainable Development goals in the United States

In the United States control of pollution has largely centred on controlling discharges from facilities' pipes and other point sources. As a result of these efforts, the largest share of remaining water quality problems can be attributed to runoff from more diffuse, "non-point" sources from farms and grazing lands.

However, addressing these sources of pollution could require imposing of substantial regulatory costs on groups that have thus far not been required to control their pollution. This would impose significant social and economic impacts and raise issues of fairness.

To further complicate matters, GAO's March 2000 report "Water Quality: Key EPA and State Decisions Limited by Inconsistent and Incomplete Data" questioned the usefulness of much of the data needed to make regulatory decisions concerning these types of pollutants.

3.5 For other programs, the judgments may be made routinely by officials, for example:

- Inspection regimes for regulating industrial pollution may require inspectors to balance the impact of emissions on the environment against the ability of industry to pay for the installation of pollution-reducing measures.

-
- Capital projects, such as road building, often have significant economic, environmental and social impacts that need to be carefully weighed. Officials may be responsible for ensuring that all relevant impacts are appropriately assessed and taken into account when arriving at a decision.

In making such judgments and trade-offs, officials may use more or less sophisticated techniques to weigh one aspect against another. These are described more fully later, in Figure 18.

Opportunities for audit at program level

The scope for auditing programs is enormous; this paper focuses on some key issues for the auditor

3.6 The scope for audit of programs is enormous. It is not possible within the scope of this paper to outline all the options; Figure 2 shows the wide range of programs which could be looked at from a sustainable development perspective. However, it is possible to outline some of the issues that might need to be taken into account when selecting, scoping and designing audits involving sustainable development issues.

Selecting topics for audit

3.7 The selection of audits to undertake will depend on the approach adopted by the SAI to choose its wider program of audit. In most instances, audits focused on sustainable development will have to compete with ideas on other topics for a place in the SAI's program and priorities. The study topic will therefore need to be auditable, offer added value, tackle material issues and be capable of timely completion within the available resources.

3.8 The topic's importance is likely to reflect not only monetary value, but also the importance of the program's impact. For example, counter-pollution policy is likely to include different types of policy instrument, such as economic incentives, research and training initiatives, public education



campaigns and regulatory organizations established to licence and police companies and prosecute offenders. There may not be much public money involved, but the impact of the policy, or a policy failure, could be huge.

3.9 For some audits it may be necessary to identify those organizations that are essential for the conservation and sustainable use of resources in order to prioritize areas for audit. The SAI of Peru has done this, in their audits with a natural resource focus, by devising a matrix of the functions and activities of all the state-owned companies involved in a field and using this to select which institutions will require more detailed evaluation.

*The SAI will need to be selective,
and focus on key programs*

3.10 The approach adopted by SAIs need not differ from the processes normally used by SAIs to select topics for performance audit. However, in identifying topics, SAIs may wish to look at the links between individual programs and the government's overall strategy. Typical questions to be asked are shown below. These questions are not necessarily intended to form the basis for audit but may help the SAI to understand the contribution expected of individual policies and programs and where potential weaknesses may be found.

Selecting programs for audit scrutiny

- Is there a link between strategic objectives and the specific policies and programs?
- Is it clear which policies are expected to achieve strategic objectives, and who is responsible for delivering them?
- Is the program meeting its objectives?
- Is the government complying with its own laws and is it fulfilling its responsibilities under any international accords it has signed?

*There is already INTOSAI guidance
on auditing activities with an
environmental perspective*

3.11 The INTOSAI Working Group on Environmental Auditing has produced a paper entitled “Guidance on Conducting Audits of Activities with an Environmental Perspective” which may be of interest to SAIs that require further guidance. Much of the paper is applicable to the wider concept of sustainable development.

3.12 In broad terms, SAIs may decide to consider subjects under the following headings:

- *Green housekeeping issues* such as energy efficiency, routine procurement and the use of water, and other natural resources in public bodies. See Figure 14 for an example on the management of utilities.
- *Environmental programs*, including the effectiveness of techniques used to incorporate environmental factors into day-to-day decision making, for example building flood defences, implementing river management and controlling pollution.
- *Programs serving broader economic and social objectives, with an environmental perspective*, including programs aimed, for example, at arresting local economic decline, re-using underused or derelict land, or maintaining local communities. See Figure 15 for an example.

Figure 14: United Kingdom Ministry of Defence—Management of Utilities

The United Kingdom Defence Ministry spends about £180 million a year on electricity, gas, oil, water and sewerage. In 1997 the National Audit Office published a report examining the scope for savings through better management of utilities.

The report identified ways to save energy. Some were simple measures that would cost little or nothing to implement, for example, adjustments to thermostats and educating staff to be more energy-conscious. Some would repay their investment within a year (for example, fitting thermostats, timers and controls). Others would require investment but could be expected to result in savings within three years (for example, energy-efficient light fittings).



Figure 15: Land Reclamation in United Kingdom

Until April 1999, a United Kingdom Government agency known as “English Partnerships” was responsible for bringing derelict, vacant and under-used land and buildings back into use. The Agency’s main activity was to provide finance to support physical regeneration projects, working in partnership with other public and private sector organizations. As such, the Agency was expected to play an important part in helping to achieve sustainable economic, environmental and social regeneration in areas of need.

In 1999, the National Audit Office published a report which focused on the work of English Partnerships in assisting local regeneration in six geographical areas. Coupled with field visits and data analysis, the study team sought the views of the Agency’s business and community partners at local level to help gauge its effectiveness in promoting regeneration.

The report identified the need to establish clearer goals and targets, to introduce longer-term evaluation of the effectiveness of area regeneration schemes, and to establish more rigorous systems for recording outputs.

3.13 In addition to the guidance referred to above, the INTOSAI Working Group on Environmental Auditing's website (www.environmental-auditing.org) includes a database of audit reports on a large variety of environmental topics, drawn from SAIs world-wide.

Scoping and designing sustainable development audits

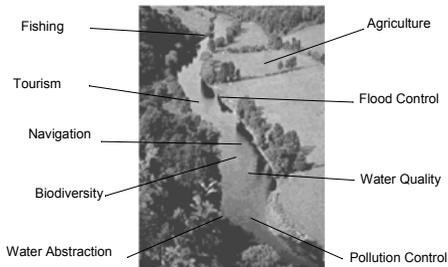
Auditing sustainable development poses some challenges for the auditor

3.14 For most programs, SAIs will be able to approach scoping and study design in much the same way they would any other performance audit. However, sustainable development also throws up some special challenges for the auditor. This section points out issues that may be of particular relevance to audits in this field.

Programs contributing to sustainable development are likely to involve many organizations working together

3.15 Programs contributing to sustainable development objectives are more likely to require co-ordinated action from a range of public and private sector bodies. SAIs need a thorough understanding of the interrelationships before deciding the scope of a study. Figure 16 illustrates, for example, the range of issues that might have an influence on the sustainable management of a river system and hence the variety of organizations and the scale of the task that might face an SAI.

Figure 16: Achieving sustainable development may require co-ordinated action from a large number of organizations



The sustainable management of a single river system requires many organizations to work together in a coordinated way on a large number of issues

3.16 When deciding the scope of the study, SAIs need to decide whether to look across the work of a number of these organizations. Such audits, if they are well scoped, are likely to offer much greater opportunity for adding value. However, SAIs have to consider whether they are likely to have the skills and resources required for such work, and whether they will gain the co-operation from other auditors. In some cases, the SAI may wish to compare performance with other countries.



Figure 17: Scoping Sustainable Development studies

When scoping a sustainable development study, SAIs may decide to:

- *Focus on the work of a single organization.* For example, audits could look at green housekeeping issues such as energy efficiency, routine procurement and the use of water and other natural resources in public bodies.
- *Focus on a range of organizations working across regional and organizational boundaries.* To achieve this, SAIs might need to work with other statutory auditors at state or regional level, for example in audits of flood defences, regulating water quality and controlling pollution.
- *Compare performance and practices with experiences in other countries and in the private sector.* SAIs might seek to work on a co-ordinated or joint audit with other SAIs. The INTOSAI Working Group on Environmental Auditing has produced a booklet "How SAIs May Co-operate on the Audit of International Environment Accords", which provides guidance on conducting joint or co-ordinated audits.

Methodological challenge

A decision for SAIs is how far they should look at the trade-off between economic, environmental and social objectives

3.17 The concept of sustainable development is likely to pose new methodological and analytical challenges for SAIs. A key decision for study design in the future will be how far SAIs could, or should, look at trade-offs between economic, environmental and social objectives.

3.18 For SAIs contemplating such audits, thought may need to be given to:

- Whether the links between economic, environmental and social issues are amenable to analysis.
- Whether the SAI is likely to find itself questioning the merits of policy objectives—which may not be within its mandate.

-
- Whether it has the expertise and experience to tackle a more widely scoped study.

In some subject areas it may not be possible to look at the linkages, and methodology may be complex

3.19 SAIs may need to avoid studying issues and trade-offs that cannot easily be assessed or analyzed. This could lead to the SAIs being pulled into controversial political debate. The complex interaction of economic, environmental and social factors which lays at the heart of sustainable development cannot be easily analyzed to allow an SAI to fully explore the trade-offs or balances between the three factors. Unlike purely financial decisions, which can be reduced to a cost-benefit analysis, there is no similar way to assess these trade-offs. In many areas of government, therefore, these trade-offs are decided on a political basis. In addition the government may have to use detailed or technical evaluations, the assessment may also involve a considerable degree of subjectivity (see Figure 18). The SAI may decide it is not suitable to use such technical or subjective judgments. Instead, the SAI may have to audit against the targets and expectations that government has endorsed, or against the balance it has sought to achieve.

Figure 18: Analytical techniques for reconciling economic, environmental and social concerns

Environmental Impact Assessment—a way to assess what the results of a policy, plan or action will have on the environment. Because this assessment is done at the earliest appropriate stage of decision making, it means that environmental issues are on a par with economic and social considerations.

Social Cost Benefit Analysis—a formalized comparison of the costs and benefits (discounted to a common base year) of a proposed project. While in theory it is possible to place monetary values on environmental and social costs and benefits associated with a scheme, in practice it has proved problematic to derive objective valuations that will command widespread acceptance.

Multiple Accounts Analysis—a method for incorporating social and environmental considerations into planning. It involves considering different aspects of the problem separately and together rather than putting a single monetary value on the economic, social, and environmental costs and benefits of an issue.



Life-Cycle Costing—public bodies may use life-cycle costing to assist decision making. Life-cycle costing, as its name implies, attempts to capture all the costs associated with procuring a product, including maintenance and disposals costs. For some operations, for example industrial processes causing significant contamination, clear-up costs may be a significant influence on the decision to go-ahead with the process.

Sustainable Reference Values—these are scientifically determined and generally accepted values which set absolute limits to environmental, economic, and social outcomes, for example, a level of water extraction which is sustainable (i.e., which ensures continuity of supply and quality).

Best Available Technique Not Entailing Excessive Cost (BATNEEC)—this term seeks to define the physical process or technique (usually industrial) which does most to limit emissions of pollutants to one medium (air, water, soil) without entailing excessive cost. Its use may be written into regulations and used by officials to guide decisions involving, for example, trade-offs between economic and environmental costs in the regulation of pollution from industry.

Best Practicable Environmental Option—a process where the least damaging or most beneficial environmental option is identified from a range of possible actions, taking into account releases of pollutants to more than one medium and the BATNEECs for each (air, water, soil).

But, in other areas looking at the linkages may add new insights

3.20 Provided these conditions are borne in mind there may, however, be occasions when examination of these trade-offs will be crucial to the added value to be derived from the study. For example, the examination of subjects such as the regulation of pollution, fisheries protection, and forest management potentially raise important issues for sustainable development which might be amenable to analysis. In study of timber harvesting it may be possible to model the impact of different harvesting strategies on the following:

- the balance of tree species and biodiversity;
- the proportion of land lying fallow; and
- the impact on likely income streams and hence employment.



Figure 19: Air pollution in north eastern Europe

In 1999, in recognition of the inter-dependence of national air pollution prevention programs, the national audit offices of Czech Republic, Lithuania, and Poland launched parallel audits.

The aim of the audits was to establish whether national governments were implementing the various bilateral agreements and international conventions to which they had subscribed. The audits focused on how the environmental protection funds and other forms of assistance were being used to carry out programs to prevent air pollution. A further aim was to audit the regularity of the calculation and enforcement of fines for exceeding permissible emissions. Common statements of the results of the audits have been drawn up in 2000.

3.21 Applying the wider perspective of sustainable development to a topic does not necessarily imply that an SAI should examine within a single study all the linkages between social, economic and environmental issues. A study of such breadth is likely to be beyond the analytical capacity and resources of most SAIs. For almost all SAIs, audits of this sort are likely to present major analytical and methodological challenges. However, some SAIs could include an environmental slant to a study that is mainly focused on economic issues or vice versa, or possibly a social dimension may be added. The result may be more rounded reports that add deeper insights on the extent to which sustainable development is being achieved.

Figure 20: Sustainable development trade offs in South Africa

The South African SAI is carrying out an environmental audit of freshwater resources and water services. This is an example of a situation where social and environmental issues are related in a country where many people take water for their homes directly from the environment. This has come at a time of policy debate over the integration of environmental and social issues, and has led to significant resistance to the audit by one side of the policy debate. This showed how an audit on sustainable development can be affected by, and possibly even affect, policy issues, without directly commenting on policy decisions.



Figure 21: Environmental Audit and National Heritage in Peru

The Peruvian SAI has carried out a number of audits recently that look at environmental audit and National Heritage. These include audits of the Manu National Park, the Titicaca Lake basin and the Machupicchu Historical Sanctuary. They apply the concept of sustainable development in a way that makes new links between sustainable development and cultural heritage. The audit of the Titicaca Lake basin linked the effects of the conservation and sustainable use of natural resources with the Cultural Heritage goods relating to certain Peruvian peoples.

Conclusion

3.22 There are many opportunities for audits of programs looking at sustainable development. Challenges arise because of the complex way social, economic, and environmental goals are inter-related, and because of the variety of organizations affected. There may also be methodological challenges because of the relative novelty and subjectivity of some of the techniques involved. However the examples given in this part show that it is possible to plan well-focused audits that can look at sustainable development issues. The most important point is that SAIs should not plan an audit that covers too many issues, or that requires analysis methods that are too difficult to carry out.

Part 4 Building capacity within the SAI

In this Part, we consider six steps that might be taken by SAIs to develop their capability within this field

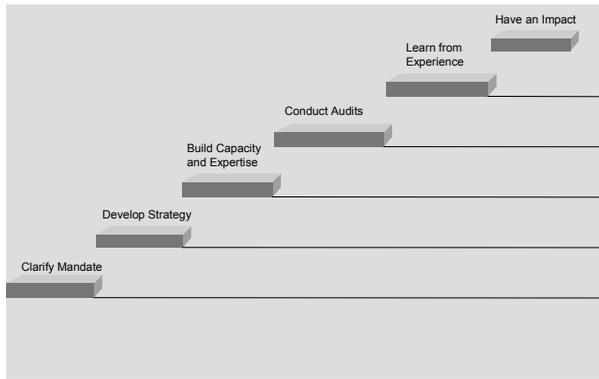
4.1 The audit of sustainable development is likely to pose new conceptual and methodological challenges for SAIs. As discussed in Part 3, many SAIs have already carried out audits of environmental programs and are moving into the area of sustainable development. In the coming years, the challenge may be to look more at issues that traverse organizational boundaries, or to look more at the links between economic, environmental, and social issues. In this Part², we consider the steps that SAIs might take to develop their capability in this field.

4.2 Figure 22 provides an overview of the six steps an SAI might take as it moves towards or expands its capacity to conduct environmental and sustainable development audits. A key point is that the SAI must strike the right balance. It is important that an SAI takes the gradual approach described in the rest of this Part. It is also important to get started and to undertake audit assignments at each stage of development in this field. There is no substitute for real audit experience as a means to develop and reinforce good practice.

² This Part of the paper draws extensively on documents prepared by the Canadian Office of the Auditor General for the Commonwealth Auditors General Conference in October 1999.



Figure 22: Key steps for SAIs undertaking environmental and sustainable development audits



SAIs need to develop their capacity to undertake sustainable development audits on a gradual basis

Step one: clarify mandate

In most cases SAIs will have sufficient mandate to scrutinize most aspects of sustainable development

4.3 The SAI will need to review its own mandate to determine whether it has the authority to conduct audits in the field of sustainable development. In most cases, SAIs with powers to study economy, efficiency and effectiveness will have sufficient mandate to scrutinize most aspects of sustainable development.

4.4 The starting point for most SAIs will be to develop a clear understanding of sustainable development and to review its own government's position, if any, on sustainable development. For most SAIs, the policy goals set by government for sustainable development will provide the basis on which to assess performance.

Step two: develop strategy

The next stage is to consider the SAI's strategic response to the sustainable development agenda

4.5 The next stage is to consider the SAI's strategic response to the sustainable development program. Questions the SAI might ask itself include:

- What are the goals of an audit on sustainable development?
- What are the key areas of sustainable development that should be subjected to audit?
- What issues are relevant to sustainable development audits?
- What should the audit approach be for each of these issues?
- Is there a need for organizational change within the SAI?
- Does the SAI have suitable expertise, or does it need to consider bringing in assistance from outside or developing its own expertise internally?
- What links need to be built with other legislative auditors?

4.6 The attention given to sustainable development issues is likely to vary widely between SAIs. The strategies that each SAI may adopt will depend on a several factors, including the importance given to the topic within the legislature and at government level; the experience of the SAI; and the resources available for this type of work.



Figure 23: Integrated crop management systems in Jordan

Jordan has experienced major problems with pesticide pollution of groundwater and soil. Pesticides had posed health hazards to agricultural workers and consumers. In response Jordan's Government brought in a project in 1998 to promote new ways to manage crops. The aim was to help farmers reduce their costs, lower the risks to consumers and help ensure that Jordan's food exports meet international standards for pesticide residues.

Jordan's SAI found that the program had resulted in significant increases in the number of farmers who had adopted new methods to manage their crops. As fewer pesticides were used, farmers had made significant savings. The overall proportion of Jordanian agricultural output produced in this way had also increased sharply.

4.7 SAIs may decide to combine audits of sustainable development within their main programs, selecting topics for audit outside of the usual government programs. In other cases, SAIs may wish to build special teams with particular expertise in this field. In Canada, the legislature has appointed a Commissioner for Sustainable Development and the Environment within the Office of the Auditor General with specific responsibility for reporting to the Canadian Parliament on the issues of sustainable development (Figure 24).

Figure 24: Commissioner for the Environment and Sustainable Development, Canada

In July 1996, the Canadian Parliament created a new post of Commissioner of the Environment and Sustainable Development.

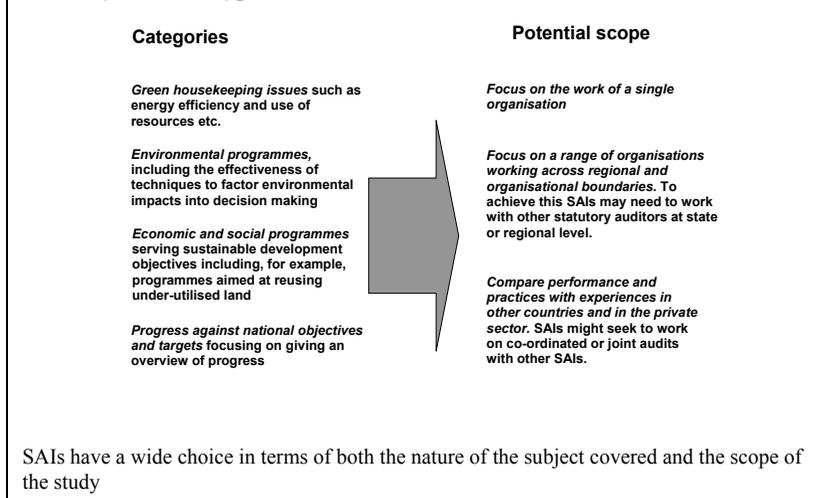
By law, the Commissioner is obliged, on behalf of the Auditor General, to report annually to Parliament on issues related to environmental and other aspects of sustainable development. Parts of the relevant legislation are shown in Appendix A. The Commissioner is assisted by a special team within the Office of the Auditor General.

Step three: build capacity and expertise within the SAI

SAIs will need to adopt an audit approach that suits their overall strategy and the expertise and resources available to them

4.8 SAIs will need to adopt an audit approach that suits their overall strategy and the expertise and resources readily available to them. As shown in this paper, possible audits that deal with sustainable development issues may fall anywhere within a broad spectrum of increasing analytical and methodological complexity (Figure 25).

Figure 25: A program of sustainable development audits can involve audits of widely different type and scale



4.9 As SAIs become more confident in handling more complex issues, more effort is likely to be spent on examining how effective government actions are. In these instances, SAIs will need to question whether existing methodologies used to conduct performance audits are suitable. Bringing in specialist staff is one route, either directly by hiring specialists or through the



use of outside consultants depending upon local circumstances. In addition, the SAI may need to review its training program. Liaison with other legislative auditors domestically and internationally may also help to develop the capacity of the SAI to conduct more challenging audits on sustainable development (Figure 26).

Figure 26: INTOSAI Development Initiative

It is the mission of the INTOSAI Development Initiative's (IDI) to help developing nations improve their audit capacity and address emerging audit issues through training, information sharing and technical assistance.

As part of the process to develop a new strategic plan for IDI from 2001–2006, the Norwegian Office of the Auditor General conducted a survey in December 1999 in six of INTOSAI's seven regions. 144 SAIs were invited to rate the importance of five areas for IDI's future agenda.

Virtually every region highlighted their interest in environmental auditing, both in their ratings and in written comments in the survey. Strong support was given from a large number of SAIs for IDI to increase co-operation and collaboration with the *Working Group on Environmental Auditing* to transfer the results to the operational level by developing training activities.

4.10 The Canadian SAI has recently extended the range of its work to include audits specifically aimed at assisting public bodies to improve their performance. The SAI has, for example, worked on a capacity-building initiative in the area of reporting on environmental actions and how to integrate this into decision making. It has a project entitled "Accounting for Sustainable Development". One goal of this project is to develop models for integrated decision making that can subsequently be used in audits of programs committed to practicing sustainable development. To maintain independence, the SAI ensures that team members involved in the capacity-building work will not subsequently be involved in auditing the results that departments report to Parliament.

Step four: conducting audits

Audits of sustainable development issues will require the usual four phases of any audit—planning, fieldwork, reporting and follow-up

4.11 The standards applied to the conduct of audits looking at sustainable development should be no different than any other audit. Audits of sustainable development issues will require the normal four phases of any audit—planning, fieldwork, reporting and follow-up. The essential objectives—making a difference, promoting accountability and the use of best practices—remain unchanged.

4.12 A successful audit will often revolve around some basic questions of management:

- Is anybody in charge?
- Is there adequate planning that includes milestones, performance measures, goals and expected results?
- Does the organization have sufficient expertise at hand to discharge the responsibilities it is charged with?
- How well are the various organizations working together?
- Is accountability clearly defined? Is reporting clear, relevant, understandable and timely and does it include results?
- Is there adequate measurement of results against goals and targets?
- Is the relevant information being used to make sound decisions?
- Does the organization have adequate arrangements in place to assess how effective its actions are, and if so, what the results have been?



Figure 27: Conservation of Indonesia's National Forest

Indonesia has established a number of projects designed to conserve its national forests. The key aims of these projects are to preserve natural beauty, and protect the wide range of local plants and animals. It has a series of areas designated as Natural Reservations, Wildlife Reservations, National Parks and Protected Forests.

The Indonesian SAI has commented that the projects designed to support these aims have definite clear targets to be achieved and activities to be performed. The planning includes costing both human and material resources. However barriers to achieving these targets have been reported, including:

- Conflict between government officials operating under national law and local people maintaining the land according to customary local law;
- Lack of effective control over timber felling;
- Illegal exports of plants and animals to other countries; and
- The import of foreign biotechnology products which destroy the local plants and animals.

Step five: learn from SAI's own experience and from others

Exchanging experiences with other SAIs can help share ideas and keep abreast of developments

4.13 Clearly there is always room for improvement in such a developing field as the audit of sustainable development. Exchanging experiences with other SAIs can help share ideas and keep abreast of recent developments. In many parts of the World, members of INTOSAI have established regional groups on environmental auditing to assist the learning process. These groups might also address sustainable development issues. Where practical, common training programs may be initiated, perhaps on a regional basis. Databases could be developed to assist in identifying and sharing this specialized expertise. The use of the Working Group's Website (www.environmental-auditing.org) can assist SAIs with information sharing.



Figure 28: Regional Working Groups on Environmental Auditing

One way of learning from the experience of other SAIs is through the regional working groups on environmental auditing. Within INTOSAI there are seven regional organizations of supreme audit institutions (SAIs): Africa (AFROSAI), the Arabic countries (ARABOSAI), Asia (ASOSAI), Caribbean (CAROSAI), Europe (EUROSAI), Latin American and Caribbean (OLACEFS), and the South Pacific (SPASAI).

The INTOSAI Working Group on Environmental Auditing developed a strategy for co-operation with the regional organizations of supreme audit institutions. A regional Working Group on Environmental Auditing was established in six of the seven INTOSAI regions. The goal of the regional Working Groups is to promote the involvement of SAIs in international environmental audits in the region and to exchange experiences in this field. Each region has nominated a country to act as co-ordinator. For example in EUROSAI, Poland acts as the regional co-ordinator and has the following objectives:

- launching initiatives to involve new European SAIs in the Working Group's work, and extending membership to SAIs from Central and Eastern European countries;
- disseminating environmental audit documents, guidelines, standards, methods, and techniques;
- exchanging information, environmental audits and experience gained from them;
- initiating international audits in various regions of Europe;
- promoting the Working Group's activities by disseminating information; and
- co-operating on a continual basis with the Chair of the INTOSAI Working Group on Environmental Auditing, as well as with the sub-co-ordinators.

For further information on the regional working groups please visit www.environmental-auditng.org and follow the link to regional work groups.

Step six: have an impact

As with other forms of performance audit, SAIs should have arrangements for following up recommendations and for recording impacts

4.14 The obvious question is “Are we making a difference and, perhaps more important are we making the difference that we wanted to make?” As



with other forms of performance audit, SAIs should have a system in place to follow up on their recommendations and to record their impacts.

4.15 A comprehensive or performance audit can only be effective if the findings of the audit are made public. A sound communications and reporting strategy is critical to success. An SAI needs to consider its relationship with the media, legislative committees, the government administration, and the wider community. As ever it needs to consider carefully whether the format used to produce the report helps or hinders getting the message across.

4.16 Appendix A shows how one government (Canada) went about promoting environmental accountability in government through the legislation of its SAI. This section shows both the legislated responsibility of the Canadian SAI and that of federal departments.

Conclusion

4.17 Sustainable development poses new challenges in ideas and methods for SAIs. In this section, we have suggested that by breaking the process down into a series of manageable stages, and by drawing on the experiences of other SAIs for example, through the Working Group on Environmental Auditing's website (www.environmental-auditing.org), these challenges can be approached with confidence.

Appendix A: Excerpts from *Auditor General Act (Canada)*

Value for Money (Performance Audit)

7.(2) Each report of the Auditor General under subsection (1) shall call attention to anything that he considers to be of significance and of a nature that should be brought to the attention of the House of Commons, including any cases in which he has observed that

(c) money has been expended other than for purposes for which it was appropriated by Parliament;

(e) satisfactory procedures have not been established to measure and report the effectiveness of programs, where such procedures could appropriately and reasonably be implemented; or

(f) money has been expended without due regard to the environmental effects of those expenditures in the context of sustainable development.

15.1 (1) The Auditor General shall, in accordance with the *Public Service Employment Act*, appoint a senior officer to be called the Commissioner of the Environment and Sustainable Development who shall report directly to the Auditor General.

(2) The Commissioner shall assist the Auditor General in performing the duties of the Auditor General set out in this Act that relate to the environment and sustainable development.



Sustainable Development

21.1 The purpose of the Commissioner is to provide sustainable development monitoring and reporting on the progress of category I departments towards sustainable development, which is a continually evolving concept based on the integration of social, economic and environmental concerns, and which may be achieved by, among other things,

- (a) integrating the environment and the economy;
- (b) protecting the health of Canadians;
- (c) protecting ecosystems;
- (d) meeting international obligations;
- (e) promoting equity;
- (f) having an integrated approach to planning and making decisions that takes into account the environmental and natural resource costs of different economic options and the economic costs of different environmental and natural resource options;
- (g) preventing pollution; and
- (h) having respect for nature and the needs of future generations.

23. (1) The Commissioner shall make any examinations and inquiries that the Commissioner considers necessary in order to monitor

- (a) the extent to which category I departments have meet the objectives, and implemented the plans, set out in their sustainable development strategies laid before the House of Commons under section 24; and
- (b) the replies by Ministers required by subsection 22(3).



(2) The Commissioner shall, on behalf of the Auditor General, report annually to the House of Commons concerning anything that the Commissioner considers should be brought to the attention of that House in relation to environmental and other aspects of sustainable development, including

(a) the extent to which category I departments have met the objectives, and implemented the plans, set out in their sustainable development strategies laid before that House under section 24.

(3) The report required by subsection (2) shall be submitted to the Speaker of the House of Commons and shall be laid before that House by the Speaker on any of the next fifteen days on which that House is sitting after the Speaker receives it.

24. (1) The appropriate Minister for each category I department shall cause the department to prepare a sustainable development strategy for the department and shall cause the strategy to be laid before the House of Commons

(a) within two years after this subsection comes into force (this meant December 1997).

Note: Sections 7.(2)(f), 15.1, 21.1, 23.(1), and 24.(1) were the results of amendments to the Auditor General Act. These amendments came into force in December 1995.



Appendix B: Members of the INTOSAI Working Group on Environmental Auditing

(Of June 2003)

Chair Mrs. Sheila Fraser, Canada			
Associate Chair Mrs. Johanne Gélinas, Canada			
Country	Audit office	Auditor General	Title
Algeria	Cour des Comptes	Mr. Abdelkader Benmarouf	President
Austria	Austrian Court of Audit	Dr. Fanz Fiedler	President
Bangladesh	Office of the Comptroller and Auditor General of Bangladesh	Mr. Muhammad Ahsan Ali Sarkar	Comptroller and Auditor General
Brazil	Brazilian Court of Audit	Mr. Valmir Campelo	President
Cameroon	Supreme State Audit Office	Mr. Njiemoun Mama	Auditor General
Canada	Office of the Auditor General	Mrs. Sheila Fraser	Auditor General
Chile	Contraloría General de la República de Chile	Mr. Gustavo Sciolla Avendano	Sr. Contralor General de la República
China (People's Republic of)	National Audit Office of the People's Republic of China (CNAO)	Mr. Li Jinhua	Auditor General
Colombia	Contraloría General de la República de Colombia	Dr. Antonio Hernandez Gamarra	Contralor General de la República
Costa Rica	Contraloría General de la República	Lic. Luis Fernando Vargas Benavides	Contralor General de la República



Country	Audit office	Auditor General	Title
Cyprus	Audit Office of the Republic	Mrs. Chrystalla Georghadji	Auditor General
Czech Republic	Supreme Audit Office	Mr. Lubomír Voleník	President
Denmark	National Audit Office of Denmark	Mr. Henrik Otbo	Auditor General
Egypt	Central Auditing Organization	Mr. Mohammed Gawdat Ahmet El-Malt	President
El Salvador	Corte de Cuentas de la República	Mr. Rafael Hernán Contreras	Presidente de la Corte de Cuentas
Estonia	State Audit Office	Mr. Mihkel Oviir	Auditor General
Ethiopia	Office of the Auditor General	Mr. Lemma Argaw	Auditor General
Georgia	Chamber of Control of Georgia	Mr. Sulkhan Molashvili	Chairman of Control of Georgia
Guyana	Office of the Auditor General	Mr. Swatantra Anand Goolsarran	Auditor General
Iceland	National Audit Office	Mr. Sigurdur Thordarson	Auditor General
India	Office of the Comptroller and Auditor General	Mr. Vijayendra Nath Kaul	Comptroller and Auditor General
Indonesia	Audit Board of the Republic of Indonesia	Mr. Satrio Budihardjo Joedono	Chairman
Iran	Supreme Court of Audit	Mr. Seyed Kazem Mirvalad	President
Jordan	Audit Bureau	Mr. Abed Kharabsheh	President
Kazakhstan	Estimation Committee for Control over Implementation of the Republican Budget	Mr. Zhaksybek Kulekeyev	Chairman
Korea (Republic of)	Board of Audit and Inspection	Mr. Jong-Nam Lee	Chairman



Country	Audit office	Auditor General	Title
Kuwait	State Audit Bureau	Mr. Abdulaziz Sulaiman Al-Roumi	Acting President
Latvia	The State Audit Office	Mr. Raits Cernajs	Auditor General
Libya	General People's Committee for Popular Control	Mr. Hosni Sadeg Wahishi	Secretary
Lithuania	State Control of the Republic of Lithuania	Mr. Jonas Liaucius	Controller General of the Republic of Lithuania
Macedonia (Republic of)	State Audit Office	Mr. Metodija Toshevski	General State Auditor
Malta	National Audit Office	Mr. Joseph G. Galea	Auditor General
Netherlands	Netherlands Court of Audit	Mrs. Saskia J. Stuiveling	President
New Zealand	Office of the Controller and Auditor-General	Mr. Kevin Brady	Controller and Auditor-General of New Zealand
Norway	Office of the Auditor General of Norway	Mr. Bjarne Mork Eidem	Auditor General
Pakistan	Office of the Auditor General of Pakistan	Mr. Muhammad Yunis Khan	Auditor General
Paraguay	Contraloría General de la República de Paraguay	Mr. Francisco Javier Galiano Morán	Contralor General de la República
Peru	Contraloria General de la Republica	Dr. Genaro Matute Mejia	Contralor General de la Republica
Poland	Supreme Chamber of Control	Mr. Mirosław Sekuła	President
Romania	Court of Accounts	Mr. Dan Drosu Saguna	President
Russia	Accounts Chamber of the Russian Federation	Mr. Sergey Vadimovich Stepashin	Chairman of the Accounts Chamber



Country	Audit office	Auditor General	Title
Saudi Arabia	General Auditing Bureau	Mr. H.E. Tawfik Ibrahim Tawfik	President
South Africa	Office of the Auditor-General	Mr. Shauket A. Fakie	Auditor-General
Sri Lanka	Auditor General's Department	Mr. S.C. Mayadunne	Auditor General of Sri Lanka
Turkey	Turkish Court of Accounts	Mr. Mehmet Damar	President
Ukraine	Accounting Chamber	Mr. Valentyn Kostiantynovych Symonenko	The Head of Accounting Chamber
United Kingdom	National Audit Office	Sir John Bourn KCB	Comptroller and Auditor General
United States	U.S. General Accounting Office	Mr. David M. Walker	Comptroller General of the United States
Zimbabwe	Office of the Comptroller and Auditor-General	Mr. Abdulman Eric Harid	Comptroller and Auditor-General

Glossary of Terms

Agenda 21—The 1992 Earth Summit in Rio resulted in "Agenda 21", an action plan adopted by 178 governments, which states that "In order to meet the challenges of environment and development, states decided to establish a new global partnership. This partnership commits all States...that sustainable development should become a priority item on the agenda of the international community." Agenda 21 is comprehensive, covering many aspects of the sustainable development field.

Best Available Technique Not Entailing Excessive Cost (BATNEEC)—this term defines the physical process or technique (usually industrial) which does most to limit emissions of pollutants to one medium (air, water, soil) without entailing excessive cost. Its use may be written into regulations and used by officials to guide decisions involving, for example, trade-offs between economic and environmental costs in the regulation of pollution from industry.

Best Practicable Environmental Option—a process in which the least damaging or most beneficial environmental option is identified from a range of possible actions, taking into account releases of pollutants to more than one medium (air, water, soil) and the BATNEECs for each.

Convention on Biological Diversity—signed at the 1992 Earth Summit and since ratified by 174 countries, this convention obliges countries to protect plant and animal species through habitat preservation and other means. Protection of endangered species is also enforced through CITES—the 1973 Convention on International Trade in Endangered Species.

Earth Summit—UN Conference on the Environment and Development held in Rio de Janeiro in 1992. This conference was a major milestone in a global effort to deal with global problems: 105 countries endorsed the Rio Declaration.



Environmental accounting—the identification, measurement and allocation of environmental costs, internal or external, or both, to provide information to internal or external users. (Source: Full Cost Accounting from an Environmental Perspective, Canadian Institute of Chartered Accountants, 1992)

Environmental Impact Assessment—a systematic approach to evaluating the environmental consequences of a policy, plan or action.

Environmental management system—the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy. (Source: International Standards Organization)

Environmental objective—overall environmental goal arising from environmental policy, that an organization sets itself to achieve, and which is quantified where practicable. (Source: ISO 14031)

Environmental performance indicator—a measure that provides information about an organization's environmental performance. (Source: ISO 14031)

Environmental target—detailed performance requirement, quantified where practicable, applicable to the organization, or parts thereof, that arise from the environmental objectives. (Source: ISO 14031)

European Union Eco-Management and Audit Scheme (EMAS)—a complete set of standards for managing the environment developed by the European Commission which covers environmental management systems, auditing, performance evaluation, labelling, life-cycle assessment and product standards. EMAS may be implemented as an alternative or in addition to ISO 14000.



Green housekeeping—some national and regional governments have made a conscious effort to “green” their operations both as a contribution to the national strategy and as a stimulus to businesses and individuals to follow the government’s example. Initiatives focus on issues such as conserving energy, including the design of government buildings, and reducing waste.

Greening of government—initiatives designed to ensure that environmental concerns are integrated within wider policy considerations. Requiring public bodies to undertake environmental appraisals of road construction projects is an example of this approach.

ISO 14000—a comprehensive set of standards for environmental management developed by the International Standards Organization which cover environmental management systems, auditing, performance evaluation, labelling, life-cycle assessment and product standards.

Kyoto Protocol—in which 166 signatory nations committed themselves to prepare national programs to contain greenhouse gas emissions.

Life-cycle costing—attempts to capture all the costs associated with procuring a product, including maintenance and disposals costs. For some operations, for example industrial processes causing significant contamination, clear-up costs may be a significant influence on the decision to go-ahead with the process.

Local Agenda 21—chapter 28 of Agenda 21 recognized that many of the problems and solutions being addressed by Agenda 21 have their roots in local activities. It set a target that by 1996 most local authorities should have undertaken a consultative process to achieve a consensus on a “local Agenda 21” in support of national sustainable development strategies.

Multiple accounts analysis—a method for incorporating social, economic and environmental considerations into planning. It involves considering different aspects of the problem separately and parallel rather than putting a single monetary value on the economic, social, and environmental costs and



benefits of an issue. (Source: Commissioner of the Environment and Sustainable Development—Canada)

Natural Resource Accounting—is the compilation, within an accounting framework, of data relating to natural resources where the emphasis is on balance sheet items, the opening and closing stock of various natural resources, and the flows that add to and subtract from the balance sheet position.

Performance measures and indicators—fair and measurable quantifiable means by which governments can assess progress towards meeting sustainable development targets. In some readings, 'measures' are direct measures of the aspect being investigated, whilst 'indicators' are indirect measures. In this document, we use 'indicators' to mean both.

Rio Declaration on Environment and Development—a set of 27 principles agreed by the 105 nations signing the agreement to be pre-requisites for the achievement of sustainable development.

Social Cost Benefit Analysis—a standard way to compare the costs and benefits expressed in monetary terms of a proposed project. The net costs and benefits are discounted to a common base year and will often be expressed as a net present value or cost benefit ratio.

Strategic environmental assessment—a systematic, proactive process for evaluating the environmental consequences of policy, plan or program proposals in order to ensure that they are fully included and addressed at the earliest appropriate stage of decision making on a par with economic and social considerations. (Source: *International Study for the Effectiveness of Environmental Assessment, 1995*)

Sustainable development—development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (Source: *Auditor General Act (Canada)/Brundtland Report*)



Sustainable reference value—a scientifically determined and generally accepted limit which if breached implies that progress in the relevant area is unsustainable e.g. the level of fishing above which stocks will fail to recover.

UN Framework Convention on Climate Change—led to the Kyoto Protocol in which the 166 signatories committed themselves to prepare national programs to limit greenhouse gas emissions.

