

Social, environmental and economic sustainability

Development - material, social and cultural - has been fundamental to the history of human societies. The need for stewardship of the earth also has a long history. Stewardship was given a new emphasis in the 1970s, when, following the publication of Rachel Carson's *Silent Spring*, it became clear that technologically driven economic activity was responsible for increasing environmental degradation. The notion of sustainability then emerged to describe the need to ensure that humans protect the life support systems on Earth currently and into the future.

When the World Conservation Strategy was prepared and launched in 1980, sustainability and development were brought together in the new term 'sustainable development'. The term was given further weight by the World Commission on Environment and Development (commonly called the Brundtland Commission) in its report *Our Common Future* released in 1987. Since that time sustainable development has been adopted by the United Nations and other international bodies and by countries and societies worldwide.

As sustainable development has gained increasing recognition and acceptance, a distinction has emerged between sustainable development as a process and sustainability as a goal. Thus sustainable development should be seen as the means of achieving the desired goal of sustainability. Sustainability and sustainable development represent new ways of approaching the relationship between human aspirations and the physical world upon which all life depends.

What are the meanings of sustainability and sustainable development?

Among the very many definitions of sustainable development, that proposed by the Brundtland Commission in 1987 is still the most commonly used internationally. The Commission defined sustainable development as:

development that meets the needs of the present with-

out compromising the ability of future generations to meet their own needs.

In Australia, in 1992, following lengthy consultations, the Council of Australian Governments endorsed the National Strategy for Ecologically Sustainable Development. The strategy contained an overall Goal, three core Objectives and seven Guiding Principles. The Goal is development that improves the total quality of life both now and in the future in a way that maintains the ecological processes on which life depends. The Objectives are:

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

This is a fuller set of goals and objectives. There is explicit reference to the goals of individual and community well-being. Economic development is related to these outcomes. The need for equity in current society and the need for the protection of the rights of future generations are clearly expressed. A key way of protecting those rights, illustrated in the Objectives, is through the protection of biological diversity and life support systems today. The need to ensure that lack of full scientific certainty is not used to delay action in the face of potentially serious or irreversible environmental threats, as set out in the Guiding Principles, introduces another principle of great significance.

Sustainable development or ecologically sustainability development (whichever term is used) therefore embraces:

- social development – to support individual and community well-being, cultural development and social equity;
- economic development - to provide for material needs and to further human well-being; and

- protection of the environment and life support systems – to protect present and future generations, and many would argue other species;

Ian Lowe, Professor of Science, Technology and Society at Griffith University, has a pithy definition of sustainability. “The meaning of sustainability is clear: able to be sustained ideally forever, but certainly at least for the foreseeable future”. He quotes John Thwaites, Victorian Minister for Sustainability and Environment, who described sustainability as never having to say sorry to our grandchildren. Ian Lowe asks five questions stemming from his definition:

- Are we likely to run short of critical resources?
- Are we doing serious damage to the natural systems that support us?
- Is our society stable? A sustainable society will need to be an equitable one.
- Is our economy sustainable?
- Is our cultural identity at risk?

A scientific basis for sustainability

Scientific consensus on the key system conditions needed for a sustainable society was achieved by a Swedish cancer researcher Karl-Henrik Robèrt who circulated a draft to fifty scientists twenty one times until he was able gain agreement. The four finally agreed conditions (scientific principles) that must be met in a sustainable society are that nature is not subject to systematically increasing:

1. concentrations of substances extracted from the Earth’s crust;
 2. concentrations of substances produced by society;
 3. degradation by physical means;
- and, in a sustainable society
4. the ability for humans to meet their needs is not systematically undermined.

The Natural Step program based on these conditions now operates world wide.

While the concept of sustainability integrates all forms of sustainability, in some limited circumstances it may be necessary to look at one aspect of sustainability on its

own. An example is state-of-the-environment reporting where the emphasis has to be on ecological sustainability. Ecological sustainability must meet the first three Natural Step system conditions and is concerned with:

- the maintenance of biodiversity (genes, species and ecosystems);
- the protection of natural capital (air, water, soils etc);
- the maintenance of the energy and material cycles of the planet; and
- the health and resilience of all life support systems and their capacity to absorb wastes through natural cycles.

Principles for the practical application of sustainable development

There are basic principles that should inform the way sustainable development is practised. They are:

- Trade-offs, the management of conflicting environmental or social or economic goals, should always be considered in the light of ESD principles.
- Many issues therefore need to be tackled differently and with greater imagination. Examples are: eco-efficiency as a means of reducing environmental impacts and as an economic benefit to individual organisations and the whole economy; innovation related to sustainable technologies and employment; and recognition of the relationship between environmental and social justice.
- Economic growth needs to be separated (decoupled) from increasing energy and material consumption and wastes and emissions. This does not mean that a sustainable economy has to stop growing. High quality design, new technologies and electronics offer many possibilities.
- Better monitoring and reporting are needed of social, cultural, environmental and economic conditions and trends, in governments, within corporations and universities and in society as a whole.
- There should be a search and wide publicity for best practice examples of policies, projects and activities that show how programs with multiple environmental, social and economic goals can be successfully accomplished.

- Every effort should be made to bring groups with diverse interests together as a means of achieving these more broadly based goals.

Necessary Actions for the achievement of a sustainable society

There are many actions needed to transform present Australian society to a sustainable society. Of particular importance are:

- Full national acknowledgement of current unsustainable policies, practices and conditions. These conditions might include: an unsustainable environment due to uncontained greenhouse gas emissions, biodiversity loss, water stress and land degradation; an unsustainable society due to poverty, growing inequity, Indigenous disadvantage and erosion of democratic rights; and an unsustainable economy due to inadequate investment in infrastructure and education and persistent foreign borrowings and trade imbalances.
- The commitment and leadership of governments at all levels across Australia. This requires agreement about the needed action, the setting of goals and targets and collaborative action through the agency of bodies such as the Council of Australian Governments (COAG).
- The transformation of the economy to a sustainable economy through changes in government economic policies and through education, the use of regulation, pricing mechanisms and incentives to change business behaviour.
- Personal and household commitment and action including education, regulation, pricing measures and incentives to change household behaviour.
- Commitment to comprehensive sustainability education including greatly enhanced funding and widespread and more imaginative programs in schools and universities.

Useful sources

Daly, Herman E., "Economics in a Full World", *Scientific American Special Issue*, September 2005, 81. Herman Daly is an ecological economist who has been a critic of growth in its conventional sense. See also other writings.

Forum for the Future <http://www.forumforthefuture.org.uk/> Forum for the Future is recognized as the leading sustainable development charity in the UK.

House of Representatives Standing Committee on Environment and Heritage Inquiry into a Sustainability Charter <http://www.aph.gov.au/house/committee/environ/charter/discussionpaper.pdf> The proposed charter would be based on "measurable outcomes" and be put to COAG for ratification.

Lowe I., 2005, *A Big Fix: Radical solutions for Australia's environmental problems*, Australian Collaboration and Black Inc., Melbourne. This short book discusses science and the environment, the environmental crisis in Australia, the causes of the problems and how a sustainable society might operate.

National Strategy for Ecologically Sustainable Development <http://www.deh.gov.au/esd/national/nсед/index.html> The National Strategy for Ecologically Sustainable Development provides broad strategic directions and framework for governments to direct policy and decision-making. The Strategy facilitates a coordinated approach to Ecologically Sustainable Development.

The Natural Step <http://www.detnaturligasteget.se/com/Startsidan/> This web site provides links to Natural Step programs in different countries.

World Commission on Environment and Development, 1987, *Our Common Future*, Oxford University Press, Oxford. United Nations Conference for Environment and Development (the Earth Summit) in 1992. *A Common Future* called for strategies to promote sustainable and environmentally sound development. It had great influence, leading to the United Nations Conference for Environment and Development (the Earth Summit) in 1992.

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