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## Introduction to Sustainable Development

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This introduction to sustainable development will help you to gain a quick overview of what sustainable development is and why it is important. You will learn about the growing concern for the future of our interlocked ecological and economic systems in a highly populated world that is characterized by major social disparities. These pages contain material on the most important aspects of the concept.

This introduction has been developed by the Sustainable Development Communications Network (SDCN) (1998-2002), including sustainable development organizations from around the world. It reflects the diversity of our experiences and what sustainable development means in practical terms to people in locations ranging from India to Argentina to Canada.





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# Definitions

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**FARN** - The Brundtland definition implies a very important shift from an idea of sustainability, as primarily ecological, to a framework that also emphasizes the economic and social context of development. (1998)

**Earth Council** - There is an urgent need to reach broad consensus, initially at the individual and civil society levels, on a set of basic principles and values that can guide the actions of people and institutions towards sustainable development practices.

[Source](#)

Sustainable development means different things to different people, but the most frequently quoted definition is from the report *Our Common Future* (also known as the Brundtland Report): <sup>1</sup>

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

Sustainable development focuses on improving the quality of life for all of the Earth's citizens without increasing the use of natural resources beyond the capacity of the environment to supply them indefinitely. It requires an understanding that inaction has consequences and that we must find innovative ways to change institutional structures and influence individual behaviour. It is about taking action, changing policy and practice at all levels, from the individual to the international.

Sustainable development is not a new idea. Many cultures over the course of human history have recognized the need for harmony between the environment, society and economy. What is new is an articulation of these ideas in the context of a global industrial and information society.

Progress on developing the concepts of sustainable development has been rapid since the 1980s. In 1992 leaders at the Earth Summit built upon the framework of Brundtland Report to create agreements and conventions on critical issues such as climate change, desertification and deforestation. They also drafted a broad action strategy—Agenda 21—as the workplan for environment and development issues for the coming decades. Throughout the rest of the 1990s, regional and sectoral sustainability plans have been developed. A wide variety of groups—ranging from businesses to municipal governments to international organizations such as the World Bank—have adopted the concept and given it their own particular interpretations. These initiatives have increased our understanding of what sustainable development means within many different contexts. Unfortunately, as the Earth Summit +5 review process demonstrated in 1997; and the World Summit on

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sustainable development plans has been slow.

- [Timeline of Sustainable Development](#) - Learn more about the institutions, publications, and events that have shaped our ~~understanding of sustainable development~~ from the 1960s to the present.
- [Principles of Sustainable Development](#) - This searchable database provides access to the full text of more than 100 statements of ~~principles~~ of sustainable development articulated over the past decade.
- [Bibliography](#) - Explore a wide variety of concepts and definitions of sustainable development available on the Internet.

1. World Commission on Environment and Development (WCED). *Our common future*. Oxford: Oxford University Press, 1987 p. 43.

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## Sustainable Development Timeline

In 1962 *Silent Spring* was published, a book many consider a turning point in our understanding of the interconnections between the environment, economy and social well-being. In the decades that have followed, many milestones have marked the journey toward sustainable development.

The [Sustainable Development Timeline](#) has been prepared by the International Institute for Sustainable Development. The 6th edition is available as a poster. It has been updated to 2009.

Go to [http://www.iisd.org/pdf/2009/sd\\_timeline\\_2009.pdf](http://www.iisd.org/pdf/2009/sd_timeline_2009.pdf).

### Principles of Sustainable Development

Many sustainable development practitioners consider sustainable development as a set of principles or values rather than a set of defined concepts. For a view of [the many different sets of principles](#) that organizations and sectors follow, go to:

<http://www.iisd.org/sd/principle.asp>.



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Around the world we see signs of severe stress on our interlocked global economic, environmental and social systems. As the United Nations Environmental Programme's *GEO-2000* report points out, the "time for a rational, well-planned transition to a sustainable system is running out fast."<sup>1</sup> And yet we continue to adopt a business-as-usual approach to decision-making, which increases the chance that our global systems will crack and begin to crumble. Already we are faced with full-scale emergencies through freshwater shortages, tropical forest destruction, species extinction, urban air pollution, and climate change.

How do we quickly reverse these trends? In 1987 the World Commission on Environment and Development recommended seven critical actions needed to ensure a good quality of life for people around the world:

- Revive growth
- Change the quality of growth
- Meet essential needs and aspirations for jobs, food, energy, water and sanitation
- Ensure a sustainable level of population
- Conserve and enhance the resource base
- Reorient technology and manage risk
- Include and combine environment and economics considerations in decision-making

These recommendations are as valid today as they were when first written. They are a call to change our actions and to do things differently. In particular, they underscore a need to:

- [Produce differently](#) - apply concepts of eco-efficiency and sustainable livelihoods
- [Consume differently](#)
- [Organize ourselves differently](#) - increase public participation while reducing corruption and perverse subsidies



When taken together, these actions can help orient us on a path toward sustainable development.

1. United Nations Under-Secretary General and the United Nations Environment Programme (UNEP). "Overview: Outlook and recommendations," *Global Environment Outlook 2000*, London: Earthscan, 1999. Also: <http://grid.cr.usgs.gov/geo2000/ov-e/0012.htm>

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**IISD** - The implementation of sustainable development strategies confers a reduction in a company's risk, which is a key factor shareholders and investors consider in decision-making. As a result, sustainable companies are increasingly attractive for investors.

[Source](#)

**REC** - With industrial production on the rise, cleaner and more sustainable business practices must be implemented to avoid the negative experiences of the past. For this reason, the private sector is increasingly becoming one of our key stakeholders in the region.

[Source](#)

## Produce Differently

Increasing efficiency and reusing materials will play important roles in achieving sustainable development. Eco-efficient companies and industries must deliver competitively priced goods and services that improve peoples' quality of life, while reducing ecological impacts and resource-use intensity to a level within the Earth's carrying capacity. <sup>1</sup>

How much more efficient do we need to become? Globally, the goal is to quadruple resource productivity so that wealth is doubled, and resource use is halved (this concept is known as Factor Four). However, because OECD countries are responsible for material flows five times as high as developing countries, and world population continues to rise, it will be necessary for OECD countries to reduce their per capita material use by a factor of ten. <sup>2</sup>

Implementing Factor Four and Factor Ten strategies will require us to think about the cradle-to-grave impact of all goods and services to make wise choices. It will also require a reorientation of industrial economies - **reducing the scale of polluting activities and creating new opportunities for entrepreneurs.**

The new generation of small, medium and micro-enterprises that operate within a sustainable development framework will expand our understanding of appropriate technologies and their contribution to creating sustainable livelihoods. In developing countries, achieving sustainable development will require overall national income growth of around 5 to 6 per cent a year. <sup>3</sup> For this to occur, however, without further degrading the environment and society, growth must be **qualitatively different than in the past.** Capital-intensive production systems may be unattainable and undesirable in many situations. Creating 12 million old-style industrial jobs in India, for example, would require an investment of four to six times that of its GNP. <sup>4</sup> Alternative types of systems must be found that provide for high levels of productivity and

meaningful work.

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2. Ernst von Weizsäcker, Amory B. Lovins, L. Hunter Lovins. *Factor four: Doubling wealth - Halving resource use*, London: Earthscan Publications, Ltd., 1997. p. 244.
3. World Commission on Environment and Development (WCED). *Our common future*. Oxford: Oxford University Press, 1987. p. 50. Note: In light of the 1998 Asian financial crisis, the figure may be higher today.
4. Ashok Khosla. "Mini enterprises: The missing link." *Development Alternatives Newsletter* (November 1998). Also <http://www.ecouncil.ac.cr/devalt/livelihoods/1198k.htm>

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## Consume Differently

World consumption has expanded at an unprecedented rate in the 20th century, with private and public consumption expenditures reaching \$24 trillion in 1998, twice the level of 1975 and six times that of 1950.<sup>1</sup> Consumption in and of itself is not bad—all living things must consume to maintain their biological existence. The real issue is the levels, patterns and effects of consumption.

For many in the developed world present consumption levels and patterns are unsustainable. The environmental and social impacts of consumption are being felt at both local and global levels. Locally, we see increases in pollution and a growing sense of alienation within our communities. Globally, climate change and the depletion of the ozone layer are but two stark reminders of the impact of our consumption levels.

One useful tool for measuring the extent of our consumption is the ecological footprint. It shows how much productive land and water we need to produce all the resources we consume and to absorb all the waste we make. Already, humanity's ecological footprint may be over 30 percent larger than the ecological space the world has to offer.<sup>2</sup>

The ranking of ecological footprints shows which countries are ecologically most sustainable and which are running an ecological deficit. The average American has an ecological footprint 1.7 times larger than a person in Sweden, 3.8 times that of someone in Hungary or Costa Rica, and more than 9 times that of an individual in India. It is important, however, to realize that these averages hide inequalities within countries. More than 100 million people in rich nations suffer from poverty.<sup>3</sup> And a culture of material consumption is gaining ground among the emerging middle classes of such countries as India, Malaysia and Brazil.

Policies must be developed that promote consumption patterns which

**IISD** - Much emergent evidence shows that consumption is at least as important to the environment as is population—and it will prove a much tougher problem to crack...We may well have to change our outlook within a couple of decades at most: to find ways to consume less, to consume more discriminatingly, to consume more efficiently, and thereby to enjoy richer lifestyles.

[Source](#)

reduce our ecological footprint while meeting the needs of all people to enjoy a good quality of life. These policies must also raise the consumption of the world's more than a billion poor who are unable to meet their basic food, shelter and clothing needs.

Meanwhile, we need to shift how we make decisions—as consumers—from thinking about means to thinking about ends. For example, governments and businesses may collaborate to meet people's transportation needs by investing in improved public transit rather than building new roads. Even better, they may work together with communities to pass new zoning laws that allow people to live, work, and shop within the same neighbourhood. This would minimize people's needs for transportation while improving the accessibility of what they really want—goods and services.

1. United Nations Development Programme (UNDP). "Overview," *Human Development Report 1998*, New York: UNDP, 1998. Also: <http://www.undp.org/hdro/e98over.htm>

2. Redefining Progress. "Ecological footprint." [http://www.rprogress.org/progsum/nip/ef/ef\\_main.html](http://www.rprogress.org/progsum/nip/ef/ef_main.html) (March 1999).

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## Organize Ourselves Differently

How we organize ourselves and establish rules to govern our actions will play a major role in determining whether we move toward more sustainable paths.

Good governance will require reforming decision-making processes to increase opportunities for public participation, including a wide variety of activities ranging from consultation hearings as part of an environmental impact assessment, to co-management of natural resources. In its deepest form, public participation seeks to involve civil society in all steps of planning, implementation and evaluation of policies and actions. Public participation can:

- Help to establish good pathways for sustainable development
- Enhance understanding and relationships
- Increase eagerness to participate, leading to better implementation of decisions
- Enrich the community and build social capital

Reducing corruption, the misuse of power for private benefit or advantage, is also necessary to achieve sustainable development. It has proven to be highly destructive since corruption leads to the disregard of public interest and warps competitive markets. It leads governments to intervene where they need not, and it undermines their ability to enact and implement policies in areas in which intervention is clearly needed—whether environmental regulation, health and safety regulation, social safety nets, macroeconomic stabilization, or contract enforcement.

[1](#)

We govern our economies through a complex array of regulations, laws and market incentives. Unfortunately, tax structures, payments to producers, price supports and the like function as perverse subsidies that have detrimental effects on both the economy and the environment. They

**ENDA** - This new approach says that local problems can be solved by local communities, by all groups in the community, including women and young people, working and taking decisions together. But there is nothing isolationist about this. The newly empowered local community, through democratic decision-making and problem-solving, matures into a body capable of interacting productively with the local authority and even with the state.

**Earth Council** - Sustainable development is government's core concern, but must not be *only* government's concern, and citizens

should not believe that they can simply wait for change and blame government if it does not come. At the close of the 20th century it is the interaction and engagement of all of the sectors in society that create change.

[Source](#)

**REC** - While past environmental policy and management in Western countries, as well as in CEE and NIS countries, has tended to be divorced from economic policy, today growing experience and evidence show that a rather new set of policy instruments—economic instruments—can combine environmental and economic objectives.

[Source](#)

are also often distributionally regressive, benefiting mostly the wealthy—often political interest groups—while draining the public budget. As recent studies from the Earth Council and the International Institute for Sustainable Development have noted, the world is spending nearly \$1.5 trillion annually to subsidize its own destruction.<sup>2</sup> That is twice as much as global military spending a year, and almost twice as large as the annual growth in the world's economy. Removing even a portion of these perverse subsidies would provide a large stimulus for sustainable development.

1. World Bank, "Helping countries combat corruption: The role of the World Bank," *Anti-corruption knowledge resource center*, (<http://www.worldbank.org/html/extdr/corruptn/corrptn.pdf>) (September 1997)

2. See The Van Lennep Programme on Economics and Sustainable Development (<http://www.ecouncil.ac.cr/econ/>) and Norman Myers, *Perverse subsidies: Tax \$s undercutting our economies and environments alike*, Winnipeg: IISD, 1998, ([http://iisd.ca/pdf/perverse\\_subsidies.pdf](http://iisd.ca/pdf/perverse_subsidies.pdf))

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Sustainable development is a fluid concept that will continue to evolve over time but common characteristics underlie the many streams of thought. Sustainable development emphasizes the need for:

- [Concern for equity and fairness](#) - ensuring the rights of the poor and of future generations
- [Long-term view](#) - applying the precautionary principle
- [Systems thinking](#) - understanding the interconnections between the environment, economy and society

In addition, sustainable development strategies usually highlight the interplay between the local and global, the developing and the developed, and the need for cooperation within and between sectors.

Sustainable development is not a detailed plan of action, a formula that we can all blindly follow. There is no one solution. Solutions will differ between places and times and depend on the mix of values and resources. Approaching decision-making from a sustainable development perspective requires undertaking a careful assessment of the strengths of your household, community, company or organization to determine priority actions.

### Development

**Alternatives** - Sustainable development... promotes efficient use of resources, environmental harmony, and a just and equitable social order, all at the same time, and quickly, without letting a small class of people capture all the wealth and then devising policies to help it trickle down to the long-marginalized minority. (Ashok Khosla)

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## Equity and Fairness

Sustainable development is concerned with meeting the needs of the poor and marginalized portions of our population. The concepts of equity and fairness are prominent in definitions of sustainable development. Sustainable development acknowledges that if we ignore our effects on others in an interdependent world, we do so at our own peril.

Since a dangerous disparity in access to resources has been established through our economic and public-policy systems, those systems must change. Fairness implies that each nation should have the opportunity to develop itself according to its own cultural and social values without denying other nations the same right to development. <sup>1</sup>

One of the greatest challenges in decision-making is how to protect the rights of the voiceless. Future generations have no ability to speak on their own behalf or to protect their interests in decision-making processes. If development is to be sustainable, it must consider their interests.

1. Friends of the Earth Netherlands, *Sustainable consumption: A global perspective*, Amsterdam: Friends of the Earth Netherlands, 1996. p. 8.

**FARN** - As a result of the intergenerational equity principle, it is clear that environmental measures should be taken not only to protect the health and interests of the present generation, but also to protect the right of future generations to a healthy environment. (Daniel Ryan, Deputy Director)

**IISD** - In seeking to promote greater equity it is possible to strive for growth to generate additional resources for distribution, or to seek better distribution of existing resources... [but] success in the long run depends on pursuing both policies simultaneously. (IISD Working Group on Principles for Trade and

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## Long-term View

How long is long term? In Western society during the past generation, most official long-term planning has been at most three to five years. Many international stock and currency traders now think of a few weeks as long term. Traditional Native American governance, however, focused on planning for "the seventh generation today." Goals and activities are designed with consideration for their impact on seven generations into the future,<sup>1</sup> leading to a planning horizon of roughly 150 years.

A planning horizon somewhere in the middle may be both necessary and realistic. Some experts have suggested that as long as each generation looks after the next—roughly 50 years—each succeeding generation will be taken care of.<sup>2</sup> Of course, if an effect in the yet further future is foreseen, then it too can be taken into account. No generation can be expected to guarantee results it cannot foresee; but equally, none should be allowed to ignore those it can.

People from around the world are looking ahead and building scenarios about what the future may be like. The scenarios they envision range from a world of resource scarcity and violence to one of increased sharing and technological innovation. Which scenario is most likely to occur? No one is certain.

In an interdependent world, complex interactions are leading to a startlingly high rate of innovation and change. In times of rapid change, the precautionary principle can provide some guidance. It states that when an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.<sup>3</sup>

1. Linda Clarkson, Vern Morrisette, and Gabriel Regallet, *Our responsibility to the seventh generation: Indigenous peoples and sustainable development*,

**SEI** - Humanity's sustainability goals of today will need to be refined over time in light of new information and events in the spirit of "adaptive management." However, setting provisional targets for sustainability will allow us to start developing strategies to avoid critical risks, and will keep options open for the future.

[Source](#)

Winnipeg: IISD, 1992. p. 4.

2. Michael Jacobs, *The green economy: Environment, sustainable development and the politics of the future*, Vancouver, University of British Columbia Press, 1991, p. 73.

3. Science and Environmental Health Network. "The precautionary principle: A fact sheet." *The Networker: The Newsletter of the Science and Environmental Health Network*. March 1998- Volume 3, #1.

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## Systems Thinking

For some two centuries we have known that the Earth is a closed system with finite resources. As planetary explorers completed the task of mapping the lands and waters, people slowly grew to understand that there are no "new" resources. We have only one Earth. All of our activities are but a small part of this larger system. Viewing our human systems as operating within the larger ecosystem is crucial for achieving a sustainable relationship with the environment, and assuring our own species' continued survival on the planet. <sup>1</sup>

Each natural resource used by human beings—food, water, wood, iron, phosphorous, oil and hundreds of others—is limited by both its sources and its sinks. <sup>2</sup> Resources should not be removed faster than they can be renewed nor disposed of more quickly than they can be absorbed. Although environmentalists used to be concerned primarily about running out of sources, today more people are concerned about running out of sinks. Global warming, the ozone hole, and conflicts over the international shipment of hazardous waste are all problems that have arisen from our attempts to dispose of resources faster than the environment can absorb them.

Systems thinking requires us to understand that while there is only one Earth, it is composed of a multitude of subsystems all interacting with each other. A variety of models have been developed to explain the Earth's subsystems. When measuring our progress toward sustainable development, these models provide useful frameworks for choosing indicators. The differences between the models show the specific perspectives which groups bring to sustainable development and embody their differing values.

These subsystems are connected together by intricate feedback loops. The science of complexity suggests that in some systems a very small occurrence can produce unpredictable and sometimes drastic results

### Development

**Alternatives** "There is ... a gradually growing recognition of the fact that the obvious solution is not necessarily the best one. To achieve one goal we may have to act in an altogether different sector. And to get the action right, we need much better understanding of how the sectors relate to each other, an understanding that is slowly beginning to move forward." (Ashok Khosla)

by triggering a series of increasingly significant events.<sup>3</sup> We have seen that emissions in the North have thinned the protective ozone layer over Antarctica, increasing rates of skin cancer in the South. Financial crises in Asia have threatened the economies of other countries around the world. And ethnic violence in Central Africa has led to refugee migrations that are overwhelming the support systems of nearby regions, triggering further crises and migrations.

We have learned that the consequences of decisions made in one part of the world quickly affect us all.

1. Carl Folke, Monica Hammer, Robert Costanza and AnnMari Jansson. "Investing in natural capital - Why, what and how?" In AnnMari Jansson, Monica Hammer, Carl Folke, and Robert Costanza. *Investing in natural capital: The ecological economics approach to sustainability*, Washington D.C.: Island Press, 1994. p. 4.
2. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers. *Beyond the limits*, Toronto: McClelland & Stewart Inc., 1992.
3. Anthony Clayton, Nicholas J. Radcliffe. *Sustainability: A systems approach*, London: Earthscan Publications Ltd., 1996.

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As we work toward sustainable development, we must strive not to lose sight of the big picture. All too often it is easy to get caught up in our own efforts, joys and frustrations, and lose sight of the broad community of people around the world working toward the same goals. Although early environmentalists recommended that we "think globally and act locally," sustainable development challenges us to think *and* act both globally and locally. In our complex, interdependent world, people working in different places and sectors may have the answers we seek or be able to lend a hand. Find one or two websites to check regularly; join communities like OOKPIK or a group in Facebook; set

up an "alert" in Google to send you news articles on sustainability topics that you want to track.

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