

Descriptions of Sustainability

| Organisation or Person | Description | Publishing Details |
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| A. Markandya and D. Pearce. | The basic idea [of sustainable development] is simple in the context of natural resources (excluding exhaustible) and environments: the use made of these inputs to the development process should be sustainable through time... If we now apply the idea to resources, sustainability ought to mean that a given stock of resources - trees, soil quality, water, and so on - should not decline. | "Natural Environments and the Social Rate of Discount." Project Appraisal. Vol 3 (No.1) 1988. |
| Alessandra Alfieri | This approach is the result of the application of strong sustainability concept, requiring that natural capital remains intact independent of produced capital. Depletion costs are estimated by multiplying the unit costs by the physical quantities. | A Framework to measure the interaction between the economy and the environment, Environment Statistics Section, UN Statistics Division in Frameworks for Measuring Sustainable Development, 2000 OECD |
| Allan Solomon. | Ecologically sustainable development is a condition in which society's use of renewable resources takes place without destruction of the resources or the environmental context which they require. | Towards Ecological Sustainability in Europe: Climate, Water Resources, Soils and Biota. IIASA. RR-90-6, Laxenburg, Austria. 1990. |
| Anne Harrison | Our starting point is to try to define a framework within which we can link information relating to economic, environmental and social policy issues. Only by linking the issues can we examine whether different goals are reinforcing or conflicting; whether a goal of apparent merit has unexpected disbenefits; to consider trade-offs. Because of the interest in sustainability, it is essential that we have a framework with a time dimension so that we can evaluate the evolution over time of a set of indicators and assess whether the development path of the economics indeed sustainable. Because we want to examine the interactions between different aspects of concern, we need to build a framework based on a common numeraire. The numeraire most readily available is that of money. This is the medium in which choices are made between economic alternatives and it inevitably impacts choices in the social and environmental spheres. | A Framework for Measuring Sustainable Development, Statistics Directorate, OECD, in Frameworks for Measuring Sustainable Development, 2000 OECD |
| Australian Government. | Ecologically sustainable development means using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased. | National Strategy for Ecologically Sustainable Development. Australian Government Publishing Service, Canberra. Dec. 1992. |

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| Australian Minerals Industry Code for Environmental Management. | Sustainable development is "Managing activities in a manner consistent with the principles of sustainable development such that economic, environmental and social considerations are integrated into decision making management." | Australian Minerals Industry Code for Environmental Management. |
| B.J. Brown et.al. | Sustainable development - to be the indefinite survival of the human species (with a quality of life beyond mere biological survival) through the maintenance of basic life support systems (air, water, land, biota) and the existence of infrastructures and institutions which distribute and protect the components of these systems. | "Global Sustainability: Towards Measurement," Environmental Management Vol 12. No. 2, 1988. |
| Brundtland Report | 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'. | Our Common Future, 1987, Oxford University Press, UK |
| Brundtland, Chair World Commission on Environment and Development. Note: This definition is also used by Shell. | Sustainable development is "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." | World Commission on Environment and Development. |
| C. Howe | Guidelines for a responsible natural resources policy"... activities should be considered that would be aimed at maintaining over time a constant effective natural resource base". This concept was proposed by Page (1977) and implies not an unchanging resource base but a set of resource reserves, technologies, and policy controls that maintain or expand the production possibilities of future generations | Natural Resource Economics New York: Wily, 1979. |
| Carl Obst | While the workshop did not dwell on defining sustainable development, participants to the workshop confirmed a common understanding of sustainable development as referring to a broad set of issues, going beyond the relationship between the economy and the environment to encompass human and social concerns. Although difficult, such extension was generally regarded as necessary. Measuring sustainable development hence requires efforts to represent the totality of stocks and flows, as well as their relationships. | Report of the September 1999 OECD Expert Workshop on the Measurement of Sustainable Development, Carl Obst, Statistics Directorate, OECD in Frameworks to Measure Sustainable Development. 2000 OECD. |
| Chambers, N, Simmons, C and Wackernagel, M, | Primary objective of sustainability is to achieve satisfying lives for all while staying within the bounds of nature. If either of these elements is not achieved then we will have failed in our efforts to reach sustainability. | Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |

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| David Munro | Sustainable development is a complex of activities that can be expected to improve the human condition in such a manner that the improvement can be maintained. | "Sustainability: Rhetoric or Reality." in A Sustainable World: Defining and Measuring Sustainable Development. T. Trzyna, ed. Sacramento: Published for IUCN by California Institute for Public Affairs, 1995. |
| David Pearce | In simple terms [sustainable development] argues for (1) development subject to a set of constraints which set resource harvest rates at levels no higher than managed or natural regeneration rates; and (2) use of the environment as a "waste sink" on the basis that waste disposal rates should not exceed rates of (natural and managed) assimilation by the counterpart ecosystems... There are self-evident problems in advocating sustainable rates for exhaustible resources, so that "sustainabilists" tend to think in terms of a resource set encompassing substitution between renewables and exhaustibles. Equally self-evident is the implicit assumption that sustainability is a "good thing" - that optimizing within sustainable use rates is a desirable objective. On these terms, sustainability could imply use of environmental services over very long time periods and, in theory, indefinitely. | "Optimal Prices for Sustainable Development." in D. Collard, D. Pearce, and D. Ulph (eds) Economics, Growth and Sustainable Environment. London: MacMillan, 1988 |

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| <p>David Pearce, Anil Markandya and Edward Barbier.</p> | <p>Economic growth means real GNP per capita is increasing over time. But observation of such a trend does not mean that growth is sustainable.</p> <p>Sustainable economic growth means that real GNP per capita is increasing over time and the increase is not threatened by "feedback" from either biophysical impacts (pollution, resource problems) or from social impacts (social disruption).</p> <p>Sustainable development means that per capita utility or well-being is increasing over time.</p> <p>or</p> <p>Sustainable development means that a set of "development indicators" is increasing over time.</p> <p>[The above definition is adapted in Johan Holmberg, ed. Making Development Sustainable. Island Press. Washington D.C. 1992]</p> <p>Sustainable development means either that per capita utility or well-being is increasing over time with free exchange or substitution between natural and man-made capital, or that per capita utility or well-being is increasing over time subject to non-declining natural wealth.</p> <p>There are several reasons why the second and more narrow focus is justified, including:</p> <p>Nonsubstitutability between environmental assets (the ozone layer cannot be recreated);</p> <p>Uncertainty (our limited understanding of the life-supporting functions of many environmental assets dictates that they be preserved for the future);</p> <p>Irreversibility (once lost, no species can be recreated);</p> <p>Equity (the poor are usually more affected by bad environments than the rich).</p> | <p>Blueprint for a Green Economy. Earthscan Publications Ltd. London. 1989.</p> |

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| David Pearce, Edward Barbier, Anil Markandya. | <p>We take development to be a vector of desirable social objectives. Elements include:</p> <ul style="list-style-type: none"> • Increases in real income per capita; • Improvements in health and nutritional status; • Education achievement; • Access to resources; • A "fairer" distribution of income; • Increases in basic freedoms. <p>Sustainable development is then a situation in which the development vector increases monotonically over time. We summarize the necessary conditions [for sustainable development] as "constancy of the natural capital stock" More strictly, the requirement is for non-negative changes in the stock of natural resources such as soil quality, ground and surface waters and their quality, land biomass, water biomass, and the waste assimilation capacity of the receiving environment.</p> | "Sustainable Development and Cost- Benefit Analysis." London Environmental Economics Centre, Paper 88-01. |
| David Pearce. | Sustainable economic development is continuously rising, or at least non-declining, consumption per capita, or GNP, or whatever the agreed indicator of development is. | Blueprint 3. CSERGE. London: Earthscan Publications, 1993 |
| Donella Meadows, et.al. | A sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support. | Beyond the Limits. Post Mills, Vt: Chelsea Green Pub. Co. 1992. |
| E. Barbier | The concept of sustainable economic development as applied to the Third World... is therefore directly concerned with increasing the material standard of living of the poor at the "grassroots" level, which can be quantitatively measured in terms of increased food, real income, educational services, health care, sanitation and water supply, emergency stocks of food and cash, etc., and only indirectly concerned with economic growth at the aggregate, commonly national, level. In general terms, the primary objective is reducing the absolute poverty of the world's poor through providing lasting and secure livelihoods that minimize resource depletion, environmental degradation, cultural disruption and social instability. | "The Concept of Sustainable Economic Development" Environmental Conservation. Vol. 14 (No.2) 1987. |

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| Edmund Burke | Society is indeed a contract... It is a partnership in all science, a partnership in all art, a partnership in every virtue, and in all perfection. As the ends of such a partnership cannot be obtained in many generations it becomes a partnership not only between those who are living, but between those who are living, those who are dead, and those who are to be born." | 1790, in Morgan, H, Implications of the International Sustainable Development Agenda for Australian Companies address to Joint BCA-WBSCD Forum Future Directions for Business and the Environment, 19 July 1999. |
| Edward Barbier. | Sustainable economic development: (The broad objective...is) to find the optimal level of interaction between three systems -- the biological and natural resource system, the economic system, and the social system. A broad consensus does exist about the conditions required for sustainable economic development. Two interpretations are now emerging: a wider concept concerned with sustainable economic, ecological and social development; and a more narrowly defined concept largely concerned with environmentally sustainable development (i.e. with optimal resource and environmental management over time). The wider, highly normative view of sustainable development (endorsed by the World Commission on Environment and Development) defines the concept as "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs." In contrast, concern with optimal resource and environmental management over time - the more narrowly defined concept of environmentally sustainable development - requires maximizing the net benefits of economic development, subject to maintaining the services and quality of natural resources. | Economics, Natural Resource Scarcity and Development. London: Earthscan Publications Ltd. 1989. |
| Former Prime Minister Margaret Thatcher | The government espouses the concept of sustainable economic development. Stable prosperity can be achieved throughout the world provided the environment is nurtured and safeguarded. | Speech to the Royal Society. Sept. 27, 1988. |
| Friends of the Earth | Meeting the twin needs of protecting the environment and alleviating poverty | McLaren, D, Bullock, S, Yousurf, N, 1998, Tomorrow's World, Earthscan, London in Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |

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| G. Conway and E. Barbier. | More difficult to define is sustainability. The common use of the word "sustainable" suggests an ability to maintain some activity in the face of stress -- for example to sustain physical exercise, such as jogging or doing push-ups -- and this seems to us also the most technically applicable meaning. We thus define agricultural sustainability as the ability to maintain productivity, whether of a field or farm or nation, in the face of stress or shock. | "After the Green Revolution: Sustainable and Equitable Agricultural Development," <i>Futures</i> (20) No. 6. December, 1988 |
| G. Schultink. | Sustainable development may be defined as the development and management of natural resources to ensure or enhance the long-term productive capacity of the resource base and improve the long-term wealth and well-being derived from alternative resource use systems, with acceptable environmental impacts. | "Evaluation of Sustainable Development Alternatives: Relevant Concepts, Resource Assessment, Approaches and Comparative Spatial Indicators." <i>International Journal of Environmental Studies</i> . Vol. 41 pp. 203-224. 1992 |
| Hans Opschoor and Lucas Reijnders. | <p>Maintenance of a steady state is one of the operational definitions of sustainable development. A steady state is a dynamic state in which changes tend to cancel each other out... Maintenance of a steady state in terms of resources, species and pollution would imply the following:</p> <p>Use of (conditionally) renewable resources should, within a specific area and time span, not exceed the formation of new stocks. Thus, for instance, yearly extraction of groundwater should not exceed the yearly addition to groundwater reserves coming from rain and surface water;</p> <p>Use of relatively rare nonrenewable resources, such as fossil carbon or rare metals, should be close to zero, unless future generations are compensated for current use by making available for future use an equivalent amount of renewable resources.</p> | "Indicators of Sustainable Development: An Overview." In Onno Kuik and Harman Verbruggen: <i>In Search of Indicators of Sustainable Development</i> . Netherlands: Kluwer Academic Publishers, 1991. |
| Helmut Breitmeier. | <p>The sustainable development concept includes 3 parts:</p> <ul style="list-style-type: none"> i. the environment is an integral part of the economy and vice versa ii. intra-generational equity iii. inter-generational equity | "Sustainable Development: Criteria and Indicators: Workshop #3." <i>IIASA</i> , July 18, 1995. Manuscript on file at IIASA, Laxenburg, Austria. 1995 |

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| IUCN - World Conservation Union. | Sustainable development means achieving a quality of life (or standard of living) that can be maintained for many generations because it is: 1. Socially desirable, fulfilling people's cultural, material, and spiritual needs in equitable ways; 2. Economically viable, paying for itself, with costs not exceeding income; 3. Ecologically sustainable, maintaining the long-term viability of supporting ecosystems. | Guide to Preparing and Implementing National Sustainable Development Strategies and Other Multi-sectoral Environment and Development Strategies, prepared by the IUCN's Commission on Environmental Strategies Working Group on Strategies for Sustainability, the IUCN Secretariat and the Environmental Planning Group of the International Institute for Environment and Development, pre-publication draft. 1993. |
| IUCN, UNEP, and WWF. | Sustainable development - improving the quality of human life while living within the carrying capacity of supporting ecosystems. | Caring for the Earth. Gland, Switzerland: IUCN, 1991 |
| IUCN, WWF and UNEP | Sustainable development - maintenance of essential ecological processes and life support systems, the preservation of genetic diversity, and the sustainable utilization of species and ecosystems. | The World Conservation Strategy. Gland, Switzerland. 1980. |
| J. Coomer | The sustainable society is one that lives within the self-perpetuating limits of its environment. That society... is not a "no growth" society... It is rather, a society that recognizes the limits of growth... [and] looks for alternative ways of growing. | "The Nature of the Quest for a Sustainable Society," in J. Coomer (ed). Quest for a Sustainable Society. Oxford: Pergamon Press. 1979. |
| Johan Holmberg, ed. | Sustainable development is an intuitively powerful concept that, as commonly understood, provides a useful guide for development practitioners. It involves trade-offs between biological, economic, and social systems and is found in the interactive zone between these systems. There are a number of international factors that may be necessary, but insufficient, conditions for sustainable development on a national level, including peace, debt reduction, more propitious terms of trade and non-declining foreign aid. There are also several dilemmas related to the concept, including the role of growth as the unquestioned objective of economic policy, techniques for measuring sustainable development, the trade-offs between conflicting environmental goals and the limited time and distance horizons of elected politicians. | Making Development Sustainable. Wash. D.C.: Island Press 1992 |
| John Gummer, Former UK Environment Minister | Sustainable development amounts to 'not cheating on our children'. | Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |

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| John McCormick. | <p>[Sustainable development] is usually applied to less developed countries and the kind of economic and social development needed to improve the living conditions of the world's poor without destroying or undermining the natural resource base.</p> <p>[McCormick quotes the International Institute for Environment and Development (1982) definition of sustainable development] "the process of improving the living conditions of the poorer majority of mankind while avoiding the destruction of natural and living resources, so that increases of production and improvements in living conditions can be sustained in the longer term." [McCormick adds] A more appropriate and universal definition might be development that occurs within the carrying capacity of the natural and human environment.</p> | Reclaiming Paradise. Bloomington: Indiana University Press, 1991. |
| John Pezzey. | Our standard definition of sustainable development will be non-declining per capita utility - because of its self-evident appeal as a criterion for inter-generational equity. | "Economic Analysis of Sustainable Growth and Sustainable Development." World Bank Environment Department, Working Paper No. 15. Washington D.C. May, 1989. |
| Josef Vavrousek | <p>Sustainable living: such ways of life which strive for ideals of humanism and preservation of Nature, based on responsibilities towards present as well as future generations of Humankind and on respect for life and non-living parts of Nature.</p> <p>Sustainable society: a society following sustainable ways of life, establishing a dynamic harmony with Nature, based mostly on the use of renewable sources of energy and raw materials. Each civilization, society, nation, ethnic group could search for its own way to sustainable living, respecting its own cultural roots, economic conditions, and environmental situation and taking into account the collective wisdom of Humankind.</p> | "Salzburg Seminar on Environment and Diplomacy," September 3-10, 1994. Working Group on Sustainable Development. Manuscript on file at Salzburg Seminar, Salzburg Austria. |
| Kamal Hossain. | A sustainable society implicitly connotes one that is based on a long-term vision in that it must foresee the consequences of its diverse activities to ensure that they do not break the cycles of renewal; it has to be a society of conservation and generational concern. It must avoid the adoption of mutually irreconcilable objectives. Equally, it must be a society of social justice because great disparities of wealth or privilege will breed destructive disharmony. | "Evolving Principles of Sustainable Development and Good Governance." In: K. Ginther, E. Denters and Paul J.I.M. de Waart, eds Sustainable Development and Good Governance, Norwell, Ma.: Kluwer Academic Publishers, 1995. |

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| Keiichiro Fuwa | Biophysical sustainability means maintaining or improving the integrity of the life support system of Earth. | "The Meaning of Sustainability: Biogeophysical Aspects." in Defining and Measuring Sustainability: The Biogeophysical Foundations. M. Munasinghe and W. Shearer, ed. Washington D.C. Distributed for the United Nations University by the World Bank. 1995. |
| Leon Braat. | The concept combines two basic notions: economic development and ecological sustainability. Ecologically sustainable economic development can be thought of as the process of related changes of structure, organization and activity of an economic-ecological system, directed towards maximum welfare, which can be sustained by the resources to which that system has access. | "The Predictive Meaning of Sustainability Indicators." In Onno Kuik and Harman Verbruggen: In Search of Indicators of Sustainable Development. Netherlands: Kluwer Academic Publishers, 1991. |
| M. Allaby | Sustainable development - economic development that can continue indefinitely because it is based on the exploitation of renewable resources and causes insufficient environmental damage for this to pose an eventual limit. | MacMillan Dictionary of the Environment 3rd ed. London: MacMillan Press Ltd. 1988. |
| M. Redclift | The term "sustainable development" suggests that the lessons of ecology can, and should be applied to economic processes. It encompasses the ideas in the World Conservation Strategy, providing an environmental rationale through which the claims of development to improve the quality of (all) life can be challenged and tested. | Sustainable Development. London: Methuen, 1987. |
| Manuel Winograd | Sustainable development should be a process which allows for the satisfaction of human necessities without compromising the basis of that development, which is to say, the environment. | "Environmental Indicators for Latin America and the Caribbean." in A Sustainable World: Defining and Measuring Sustainable Development. T. Trzyna, ed. Sacramento: Published for IUCN by California Institute for Public Affairs, 1995. |
| Maurice Strong. | Sustainable development involves a process of deep and profound change in the political, social, economic, institutional, and technological order, including redefinition of relations between developing and more developed countries. | "Required Global Changes: Close Linkages Between Environment and Development." in Change: Threat or Opportunity. Uner Kirdar, ed. NY: United Nations. 1992. |

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| Merriam-Webster Collegiate Dictionary On Line | <p>Main Entry: sus-tain-able</p> <p>Pronunciation: s&s-'stA-n&-b&l</p> <p>Function: adjective</p> <p>Date: circa 1727</p> <p>1: capable of being sustained</p> <p>2 a: of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged</p> <p><sustainable techniques> <sustainable agriculture></p> <p>b: of or relating to a lifestyle involving the use of sustainable methods <sustainable society></p> | <p>http://www.m-w.com/cgi-bin/dictionary</p> |
| Mining and Energy Research Network, 2000. | <p>"Sustainable Development – an intra and inter generational development process defined by sustained improvements in human wealth and well-being, quality of life and ecosystem health".</p> | <p>Mining and Energy Research Network, 2000.</p> |
| Mohan Munasinghe and Ernst Lutz. | <p>Sustainable development - an approach that will permit continuing improvements in the quality of life with a lower intensity of resource use, thereby leaving behind for future generations an undiminished or even enhanced stock of natural resources and other assets.</p> | <p>"Environmental-Economic Evaluation of Projects and Policies for Sustainable Development." World Bank, Environment Department, Environment Working Paper No. 42. Jan. 1991</p> |
| Mohan Munasinghe and Walter Shearer. | <p>Biogeophysical sustainability is the maintenance and/or improvement of the integrity of the life-support system on Earth. Sustaining the biosphere with adequate provisions for maximizing future options includes providing for human economic and social improvement for current and future human generations within a framework of cultural diversity while: (a) making adequate provisions for the maintenance of biological diversity and (b) maintaining the biogeochemical integrity of the biosphere by conservation and proper use of its air, water and land resources. Achieving these goals requires planning and action at local, regional and global scales and specifying short- and long-term objectives that allow for the transition to sustainability.</p> | <p>"An Introduction to the Definition and Measurement of Biogeophysical Sustainability." in Defining and Measuring Sustainability: The Biogeophysical Foundations. M. Munasinghe and W. Shearer, ed. Washington D.C. Distributed for the United Nations University by the World Bank. 1995.</p> |

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| Mustafa Tolba. | <p>Sustainable development has become an article of faith, a shibboleth: often used but little explained. Does it amount to a strategy? Does it apply only to renewable resources? What does the term actually mean? In broad terms the concept of sustainable development encompasses:</p> <ol style="list-style-type: none"> 1. Help for the very poor because they are left with no option other than to destroy their environment; 2. The idea of self-reliant development, within natural resource constraints; 3. The idea of cost-effective development using differing economic criteria to the traditional approach; that is to say development should not degrade environmental quality, nor should it reduce productivity in the long run; 4. The great issues of health control, appropriate technologies, food self-reliance, clean water and shelter for all; 5. The notion that people-centered initiatives are needed; human beings, in other words, are the resources in the concept. | Sustainable Development - Constraints and Opportunities. London: Butterworth. 1987. |
| National Research Council. | World conservation strategy should include management of the use of a resource so it can meet human demands of the present generation without decreasing opportunities for future generations. | Managing Global Genetic Resources: Forest Trees National Academy Press, Washington D.C. 1991 |
| Nazli Choucri. | The process of managing social demands without eroding life support properties or mechanisms of social cohesion and resilience. | "Global System for Sustainable Development Research TDP-MIT." Unpublished notes. Cambridge, Ma. MIT. January, 1997. |
| Noranda's web site, 1997. | SD is "Implementation of practices and policies which allow us to meet the current and future needs of customers, suppliers, shareholders, employees, the communities in which we operate and the public, while simultaneously contributing to the well-being of the environment, economy, and society." | Noranda's web site, 1997. |
| OECD Frameworks for Sustainability | Sustainable development path is a path along which welfare does not decline – genuine savings not negatives. | Frameworks to Measure Sustainable Development, Organisation for Economic Co-Operation and Development (OECD), 2000. |
| Organization for Economic Cooperation and Development. | The sustainable development concept constitutes a further elaboration of the close links between economic activity and the conservation of environmental resources. It implies a partnership between the environment and the economy, within which a key element is the legacy of environmental resources which is not "unduly" diminished. | "ISSUESPAPERS: On Integrating Environment and Economics." Paris: OECD, 1990. |

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| Pearce et al., 1994 | Sustainable development is "non-declining human wellbeing over time". | Pearce et al., 1994 |
| Prime Minister H. Gro Brundtland. | The World Commission does not believe that a dismal scenario of mounting destruction of national global potential for development - indeed, of earth's capacity to support life -- is an inescapable destiny. The problems are planetary - but they are not insoluble. I believe that history will record that in this crisis the two greatest resources, land and people, will redeem the promise of development. If we take care of nature, nature will take care of us. Conservation has truly come of age when it acknowledges that if we want to save part of the system, we have to save the system itself. This is the essence of what we call sustainable development. There are many dimensions to sustainability. First it requires the elimination of poverty and deprivation. Second, it requires the conservation and enhancement of the resources base which alone can ensure that the elimination of poverty is permanent. Third, it requires a broadening of the concept of development so that it covers not only economic growth, but also social and cultural development. Forth, and most important, it requires unification of economics and ecology in decision-making at all levels. | "Sir Peter Scott Lecture," Bristol, 8 October, 1986. |
| R. Allen | Sustainable development - development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of human life. | How to Save the World. London: Kogan Page 1980 summarizing the World Conservation Strategy. |
| R. Costanza and Lisa Wainger | Sustainable development: The amount of consumption that can be sustained indefinitely without degrading capital stocks, including natural capital stocks. | "Ecological Economics." Mending the Earth. Berkeley: North Atlantic Books, 1991 |
| R. Costanza, | Sustainability: An ecological system is healthy and free from 'distress syndrome' if it is stable and sustainable, that is, if it is active and maintains its structure (organization) function (vigor) and autonomy over time and is resilient to stress. | "Environmental Performance Indicators, Environmental Space and the Preservation of Ecosystem Health" Global Change and Sustainable Development in Europe Manuscript on file at the Wuppertal Institute, Nordrhein-Westfalen, Germany. 1994 |

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| <p>R. Goodland and G. Ledoc.</p> | <p>Sustainable development is here defined as a pattern of social and structured economic transformations (i.e. development) which optimizes the economic and societal benefits available in the present, without jeopardizing the likely potential for similar benefits in the future. A primary goal of sustainable development is to achieve a reasonable (however defined) and equitably distributed level of economic well-being that can be perpetuated continually for many human generations.</p> <p>Sustainable development implies using renewable natural resources in a manner which does not eliminate or degrade them, or otherwise diminish their usefulness for future generations...</p> <p>Sustainable development further implies using non-renewable (exhaustible) mineral resources in a manner which does not unnecessarily preclude easy access to them by future generations...</p> <p>Sustainable development also implies depleting non-renewable energy resources at a slow enough rate so as to ensure the high probability of an orderly society transition to renewable energy sources.</p> | <p>"Neoclassical Economics and Principles of Sustainable Development" Ecological Modelling. Vol 38, 1987.</p> |

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| R. Norgaard. | <p>Thus we need to nail down the concept of sustainable development. I propose five increasingly comprehensive definitions. First we can start at the local level and simply ask whether a region's agricultural and industrial practices can continue indefinitely. Will they destroy the local resource base and environment or, just as bad, the local people and their cultural system? Or will the resource base, environment, technologies and culture evolve over time in a mutually reinforcing manner? This first definition ignores whether there might be subsidies to the region - whether material and energy inputs or social inputs such as the provision of new knowledge, technologies and institutional services are being supplied from outside the region. Second, we can ask whether the region is dependent upon non-renewable inputs, both energy and materials, from beyond its boundaries. Or is the region dependent on renewable resources beyond its boundaries which are not being managed in a sustainable manner? Third, we can become yet more sophisticated and ponder whether the region is in some sense culturally sustainable, whether it is contributing as much to the knowledge and institutional bases of other regions as it is culturally dependent upon others. Fourth, we can also question the extent to which the region is contributing to global climate change, forcing other regions to change their behaviour, as well as whether it has options available to adapt to the climate change and surprises imposed upon it by others. From a global perspective, this fourth definition of sustainable development addresses the difficulties of going from hydrocarbon energy stocks to renewable energy sources while adapting to the complications of global climate change induced by the transitional net oxidation of hydrocarbons. Fifth, and last, we can inquire of the cultural stability of all regions in combination, are they evolving along mutually compatible paths, or will they destroy each other through war. These definitions become increasingly encompassing. All, however, address sustainability of changing interactions between people and their environment over time.</p> | <p>"Sustainable Development: A Co-Evolutionary View." Futures. Vol. 26. No. 6. Dec. 1988.</p> |

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| R. Repetto | <p>The core of the idea of sustainability, then, is the concept that current decisions should not impair the prospects for maintaining or improving future living standards... This implies that our economic systems should be managed so that we can live off the dividend of our resources, maintaining and improving the asset base. This principle also has much in common with the ideal concept of income that accountants seek to determine: the greatest amount that can be consumed in the current period without reducing prospects for consumption in the future.</p> <p>This does not mean that sustainable development demands the preservation of the current stock of natural resources or any particular mix of human, physical and natural assets. As development proceeds, the composition of the underlying asset base changes.</p> <p>There is broad agreement that pursuing policies that imperil the welfare of future generations, who are unrepresented in any political or economic forum, is unfair.</p> | World Enough and Time. New Haven: Yale University Press, 1986. |
| R.E. Munn. | <p>The phrase sustainable development has been criticized, for example, by O'Riordan (1985) as a contradiction in terms. If development is equated with economic growth, this criticism is indeed justified: Malthusian limits prevent sustained growth in a finite world... Ultimately, however, uncontrolled economic growth will cause the quality of the environment to deteriorate, economic development to decline and the standard of living to drop.</p> <p>Of course, the word development does not necessarily imply growth. It may convey the idea that the world, society or the biosphere is becoming "better" in some sense, perhaps producing more, or meeting more of the basic needs of the poor. The word therefore involves a value judgement. In principle, development could become sustainable through structural changes (economic, political, cultural or ecological) or a succession of technological break-throughs.</p> | "Towards Sustainable Development: an Environmental Perspective." In: F. Archibugi and P. Nijkamp, ed. Economy and Ecology: Towards Sustainable Development. The Netherlands: Kluwer Academic Publishers, 1989. |
| Richard Carpenter | Sustainability is whether (not the extent to which) the productive potential of a certain natural system will continue (for a long time, at least several decades) under a particular management practice (intensity and type of technical and social activities, e.g. inputs of energy, nutrients, genetic variety, harvesting procedures, and cyclic variations over time). | "Limitations in Measuring Ecosystem Sustainability." in A Sustainable World: Defining and Measuring Sustainable Development. T. Trzyna, ed. Sacramento: Published for IUCN by California Institute for Public Affairs, 1995. |

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| Richard Norgaard. | [Sustainability of development] is concerned with (a) the rights of future generations to the services of natural and produced assets and (b) whether the formal and informal institutions which affect the transfer of assets to future generations are adequate to assure the quality of life in the long-run. | "Sustainability of the Economics of Assuring Assets for Future Generations." World Bank, Asia Regional Office, Working Paper Series No. 832. Jan. 1992. |
| Robert Haveman. | Sustainable development is the maintenance or growth of the aggregate level of economic well-being, defined as the level of per capita economic well-being. | "Thoughts on the Sustainable Development Concept and the Environmental Effects of Economic Policy." Paris: OECD seminar on "The Economics of Environmental Issues." Paper No. 5. Sept. 25, 1989. |
| Saburo Kato. | Sustainability: A new way of life and approach to social and economic activities for all societies, rich and poor, which is compatible with the preservation of the environment. | "Salzburg Seminar on Environment and Diplomacy." September 3-10, 1994. Working Group on Sustainable Development. Manuscript on file at Salzburg Seminar, Salzburg Austria. |
| Sir Crispin Tickell | Sustainable Development is 'treating the earth as if we meant to stay'. | Conference speech 1998, Going for Green, London in Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |
| Stephen Dovers | Sustainability is the ability of a natural, human or mixed system to withstand or adapt to, over an indefinite time scale, endogenous or exogenous changes perceived as threatening. Sustainable development is a pathway of deliberate endogenous change (improvement) that maintains or enhances this attribute to some degree, while answering the needs of the present population. | Dovers, S, Sustainability: Demands on Policy, Journal of Public Policy, 1997 16, 3,303-318 Cambridge University Press |
| Steve Goldfinger | (On ecological sustainability) Turn resources into junk no faster than nature can turn junk back into resource. | Personal communication in Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |
| Sustainability Indicators Draft Discussion Paper. | The National Strategy for ESD states that ESD is development which aims to meet the needs of Australians today while conserving our ecosystems for the benefit of future generations. Ecologically sustainable development implies economic activity, which operates in a way which allows the conservation of biodiversity and maintenance of ecological processes and services, as well as the maintenance of 'society'. | Sustainability Indicators. Draft Discussion Paper January 2000. p4. |

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| SustainAbility. | SD is "The Triple Bottom Line represents economic performance, social responsibility, and environmental care." | SustainAbility. |
| Sustainability: the Corporate Challenge of the 21st Century | <p>Sustainability results from activities which:</p> <ul style="list-style-type: none"> Enhance the planet's ability to maintain and renew the viability of the biosphere and protect all living species. Enhance society's ability to maintain itself to solve its major problems Maintain a decent level of welfare for present and future generations of humanity Extend the productive life of organizations and maintain high levels of corporate performance. | Sustainability: the Corporate Challenge of the 21st Century (2000), Eds: Dexter Dunphy, Jodie Benveniste, Andrew Griffiths, and Philip Sutton, 2000. (p6) |
| T. Meissari-Polsa | <p>What should UNCTAD do to make development sustainable: It would be well on the way to reduce international inertia that hinders sustainable development if it took some of the actions mentioned below: UNCTAD should:</p> <ul style="list-style-type: none"> include environmental issues as an item on its agenda; give more attention to the concepts of "environment" and "sustainable development;" study in detail relationships between environment and development, and between growth and natural resource utilization. What are the effects of different development strategies on the environment: Is growth possible without severe exploitation of global natural resources? Can donor countries and international organizations make it a condition that future assistance not be used for activities that damage the environment? introduce a new goal for development, a better environment, by using a longer perspective on development issues. Better use of natural resources are already an object of negotiation; take account of environmental requirements and sustainable development on every level of negotiations; establish a special committee or working group on environmental issues. Sustainable development can be discussed in all existent committees and working groups, especially in the Committee on Commodities; provide information to other international actors, initiate and co-ordinate international actions, and follow up implementation actions concerning environment and sustainable development. | "UNCTAD and Sustainable Development - A Case Study of Difficulties in Large International Organizations" in Stockholm Group for Study on Natural Resources Development, Perspective on Sustainable Development, Stockholm, 1988. |

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| The Body Shop | Sustainability and sustainable development remain elusive concepts. They have variously been referred to as, for instance, 'vision expression', 'value change', 'moral development', 'social reorganization', or 'transformation process'. | Maria Sillanpaa, The Body Shop, 'A New Deal for Sustainable Development in Business' in Sustainable Measures, ed, Bennett, P and James, P, 1999, Greanleaf UK in Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |
| The Dow Jones' Sustainability Group Index. | SD is "Sustainability companies not only manages the standard economic factors affecting their business but the environmental and social factors as well. There is mounting evidence that their financial performance is superior to that of companies that do not adequately, correctly and optimally manage these important factors." | The Dow Jones' Sustainability Group Index |
| Tim O'Riordan and Jill Yaeger | Sustainable development means adjusting economic growth to remain within bounds set by natural replenishable systems, subject to the scope for human ingenuity and adaptation via careful husbanding of critical resources and technological advance, coupled to the redistribution of resources and power in a manner that guarantees adequate conditions of liveability for all present and future generations. | "Global Environmental Change and Sustainable Development" Global Change and Sustainable Development in Europe Manuscript on file at the Wuppertal Institute, Nordrhein-Westfalen, Germany. 1994 |
| Tokyo Declaration | Sustainable regional development in a generic sense is about achieving a balanced approach between economic development, stewardship of our natural resources and the social wellbeing of our communities. | Declaration made at the GREB21 Meeting, Tokyo 22 May 2000, Business Leaders Inter-Forum for Environment 21 |
| UK Government | Social progress which recognizes the needs of everyone, effective protection of the environment, prudent use of natural resources, maintenance of high and stable levels of economic growth and employment. | Department of the Environment, Transport and the Regions, 1998, Opportunities for Change, DETR in Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |
| Union Bancaire Privee (BUP) | The transition to sustainability is necessary and, in the long term, inevitable. In a world of shrinking resources, those who first recognise the need for sustainability and adopt appropriate strategies will succeed best in future global competition. Directing investment towards sustainability will not only accelerate that transition, but also advance the combined interests of investors, governments, and the public at large. | Sturm, A, Wackernagel, M, Muller, K, 2000, The Winners and Losers in Global Competition: Why Eco-efficiency Reinforces Competitiveness: A Study of 44 Nations, Zurich: Verlag Ruegger in Sharing Nature's Interest, Chambers, N, Simmons, C and Wackernagel, M, 2000, Earthscan, UK |

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| United Nations Statistical Office. | <p>Sustainable development means that economic activities should only be extended as far as the level of maintenance of man-made and natural capital will permit. A narrower definition of sustainability excludes the substitution between natural and man-made assets and requires maintenance of the level of natural assets as well as man-made assets.</p> <p>A sustainable development seems to necessitate especially a sufficient water supply, a sufficient level of land quality (prevention of soil erosion), protection of existing ecosystems (e.g. the virgin tropical forests) and maintaining air and water quality (prevention of degradation by residuals). In these cases, the sustainability concept should not only imply constancy of the natural assets as a whole (with some possibility of substitution) but constancy of each type of natural assets (e.g. of the specific ecosystems).</p> | SNA Draft Handbook on Integrated Environmental and Economic Accounting. New York: UN Publications. March, 1992. |
| W. Clark and R. Munn | A major challenge of the coming decades is to learn how long-term large-scale interactions between environment and development can be better managed to increase the prospects for ecologically sustainable improvements in human well-being. | Sustainable Development of the Biosphere. Cambridge: Cambridge University Press, 1986. |
| World Bank. | Sustainable development means basing developmental and environmental policies on a comparison of costs and benefits and on careful economic analysis that will strengthen environmental protection and lead to rising and sustainable levels of welfare. | World Development Report, 1992: Development and the Environment. Oxford University Press, New York. |

