

Chapter 2

Sustainable Development in an International Perspective

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2.1 The Movement toward Sustainable Development

2.1.1 *Definition*

The term “sustainable development” was introduced into the language of international environmental diplomacy by the United Nations’ World Commission on Environment and Development in its widely circulated 1987 report, *Our Common Future*. Sustainable development referred to “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [1]. The 1987 report, known as the Brundtland Commission Report, contained two key concepts: (1) *needs* to which overriding priority should be given, particularly to the world’s poor, and (2) *limitations* imposed by the state of technology and social organization on the environment’s ability to meet present and future needs [1]. This approach to sustainable development requires conservation of the resource itself, and not mere alleviation of immediate environmental harms. The resource base is comprehensive, including water, air, minerals, land, and all the complex interrelationships woven in ecology, including humans in their cultural and social systems. The Brundtland Report emphasized reconciling global environmental protection, social welfare, and national economic development.

Subsequent definitions of sustainable development proliferated, but in practice it has come to mean development that achieves a balance among

economic, environmental, and social objectives for present and future generations. Sustainable development requires that priority be given to maintaining the value of renewable resources and ecosystems more generally. It does not require that every tree harvested must be replaced, but it does not allow development to impair future output. It supports activities that do not disadvantage future generations, and, thus, it is a concept that will also maintain intergenerational equity. The optimal definition of sustainable development recognizes and incorporates the social, economic, and ecological objectives of multi-generations.

2.1.2 From Stockholm to Rio, Kyoto, and Beyond

The 1972 Conference on the Human Environment in Stockholm, Sweden, attended by 113 states and representatives from 19 international organizations, was the first truly international conference devoted exclusively to environmental issues. The major tenets of this conference were the basis of the 1987 Brundtland Report, *Our Common Future*. It placed environmental issues on the global agenda, created a set of principles and an action plan for environmentally sound management, and led to the creation of the United Nations Environmental Program (UNEP). This conference played a catalytic role in promoting the subsequent adoption of international agreements concerned with ocean dumping, pollution from ships, and the endangered species trade [2]. It also adopted the "Stockholm Declaration on the Human Environment," which included forward-looking principles, such as Principle 13, that declared the need for integration and coordination in development planning to allow for environmental protection [3].

However, the Stockholm conference was limited in its effectiveness because environmental protection and the need for development, especially in developing countries, were seen as competing needs and thus were dealt with in a separate, uncoordinated fashion. Birnie [4] concluded that the conference was more concerned with identifying trade-offs between environment and development than with promoting harmonious linkages between the two. Even UN documents acknowledged after the Stockholm conference that little was accomplished to concretely integrate environmental concerns into development policies and plans [5]. A more integrated perspective that incorporated both economic development and environmental sensitivities was clearly needed.

While the concept of sustainable development can be grasped at a conceptual level, it has proven more difficult to apply concretely. The Brundtland Report advised that qualitative development must replace quantitative growth in achieving sustainable development. Underlying conditions that could promote the process were described. These include: (1) broad citizen participation, (2) an economic system that produces sustainable surpluses and technical knowledge, (3) systems and processes for resolving disputes, (4) a system of production based on preserving the ecological base, (5) international economic and social systems that foster sustainable trade and finance, and (6) a flexible administrative system [1].

The Brundtland Report recognized, however, that even if all of these conditions were in place, the transition to a sustainable society would be difficult. Many existing institutions and practices would need to change. The report asserted that “painful choices have to be made. Thus, in the final analysis, sustainable development must rest on political will” [1]. Clear paradigm shifts were identified as essential to sustainable development, but debate remained over the nature of these paradigm shifts and what they implied for the economic and social organization of a sustainable world [6].

In December 1989, the United Nations General Assembly passed Resolution 44/228 that called for a conference that should “elaborate strategies and measures to halt and reverse the effects of environmental degradation in the context of increased national and international efforts to promote sustainable and environmentally sound development in all countries” [5]. In response, the UN Conference on the Environment and Development [7] was held in Rio de Janeiro, Brazil, during the summer of 1992, unprecedented historical event with the largest gathering of 114 heads of state, including 10,000 representatives from 178 countries and 1400 non-governmental organizations represented by additional thousands.

The commitment of leaders from around the world to sustainable development was clearly articulated in Agenda 21, the key document of the summit. Agenda 21 activities are organized under environmental and development themes: quality of life, efficient use of natural resources, protection of the global commons, management of human settlements, and sustainable economic growth. Agenda 21 recognizes that the persistence of severe poverty in several parts of the world alongside a standard of living based on wasteful consumption of resources in other parts is not a sustainable model, and that environmental management must be practiced in developing and industrial countries alike. During the 1992 conference it was agreed that to implement Agenda 21, countries should prepare a national sustainable development strategy.

While sustainable development was the unifying principle for the entire Rio conference, there was disagreement about its meaning and implications. The UNCED process attempted to provide guidance in implementing sustainable development by laying out a set of principles and a plan of action based on the concept. Indeed, Rio was less about debating the definition of sustainable development than it was about developing approaches to ensure its implementation. A meeting of international legal scholars concluded that sustainable development “is as much about process and institutional arrangements as about sustainable norms” [8]. Implementing the principles of equity and living within ecological limits can only be accomplished if social, political, and economic systems have the flexibility to be redirected toward sustainability as well as integrated with each other and the environment. Lang [8] argued that the main challenge to sustainable development is integration.

In the 1997 Kyoto conference on climate change, developed countries agreed on specific targets for cutting their emissions of greenhouse gases, resulting in a general framework, which became known as the Kyoto Protocol, with specifics to be detailed over the next few years. The U.S. proposed to stabilize emissions only and not cut them at all, while the European Union called for a 15% cut. In

the end, there was a trade off, and industrialized countries were committed to an overall reduction of emissions of greenhouse gases to 5.2% below 1990 levels for the period 2008–2012. However, the complexity of the negotiations created considerable confusion over compliance even after the Kyoto Protocol itself was adopted because it only outlined the basic features for compliance but did not explain the all-important rules of how they would operate. Although 84 countries signed the Protocol, indicating their intent to ratify it, many others were reluctant to take even this step.

While there is consensus that government policies around the world have neglected the environment, there are no reliable standard measures for evaluating a country's environmental policies. Reflecting both policies and outcomes, one recently developed indicator, "genuine saving," measures the rate of saving after accounting for investments in human capital, depreciation of produced assets, and depletion and degradation of the environment [9]. Such measures, however, are still experimental.

There has been some progress in agreements reached on international environmental issues. Many countries have completed a country environmental profile, formulated conservation and biodiversity strategies, and participated in global treaties. However, this limited movement provides only a governmental declaration of good intentions. Moreover, measures are only weakly related to environmental outcomes [10].

Generally, environmental degradation is most devastating for the poor and most vulnerable, who often depend on natural resources for their incomes and have few possibilities for substituting other assets. This is especially the case in the long run, where growth policies focus on accumulation, investment, and economic growth. Countries throughout the world have overexploited their forests, fisheries, and mineral wealth and have polluted their water and air in order to accelerate short-term economic growth.

2.1.3 Growth as a Challenge to Sustainable Development

Evidence to the contrary has not dispelled the perception that the environment is a luxury good that can be demanded as incomes rise with economic growth. As a result, developing countries tend to ignore environmental concerns as policy-makers focus almost exclusively on accelerating economic growth. By doing so, they ignore the potential enormity of economic, social, and ecological costs and the reality that sometimes the damage incurred is irreversible. For example, while air and water pollution levels appear to be reversible, their impacts on human well being often are not, and promises of future remedial action can hardly compensate for health and safety losses by the present generation.

Belying East Asia's phenomenal record of economic growth and poverty reduction is its poor environmental record. In 1995, China was home to 15 of the 20 most polluted cities in the world, as measured by the concentration of total suspended particulates [11]. Air pollution, especially high levels of total suspended particulates, resulted in premature deaths and severe health damage in several cities in China and outside China in urban areas such as Bangkok,

Jakarta, and Manila. Countries that experienced rapid growth in the context of economic reforms in the 1980s—China, Korea, Malaysia, and Thailand—saw carbon dioxide emissions per capita double or triple after reforms that had led to accelerated economic growth.

However, it is not just rapid growth that leads to problems of natural capital degradation. Neither rapid nor slow growth is automatically a predictor of the degradation of natural capital [12]. While air pollution is not as widespread a problem in Central and South America as in Asia, in part because of the relatively low growth of industrialization, pollution is a serious concern in Mexico City, Rio de Janeiro, and Santiago. Because of low growth, highly skewed income distributions, inadequate investments in education and health, and political instability, poverty has remained stubbornly high, creating vicious cycles of increasing natural resource degradation and further loss of income. In another example, measured in the 1980s, differences in air pollution and traffic congestion between slow-growing Manila and fast growing Bangkok were minimal [13]. Fast-growth, with increasing urbanization, industrial expansion, and exploitation of renewable and nonrenewable resources, place pressure on the environment such that many indicators show a decline in the quality of natural capital during growth periods. However, growth creates conditions for environmental improvement by creating demand for better environmental quality and making resources available for improvement.

Not all indicators show worsening environmental conditions among the fast growing economies in Asia. Access to clean water and sanitation increased rapidly in China, Korea, Malaysia, and Thailand. In 1995, the share of the population with access to safe water rose from 71% in 1982 to 89% in Malaysia, from 66 to 89% in Thailand, from 39 to 65% in Indonesia, and from 65 to 83% in the Philippines. Similarly, sanitation service availability rose from 46 to 96% in Thailand, from 30 to 55% in Indonesia, and from 57 to 77% in the Philippines [11]. Though still at low levels in Cambodia, the Lao People's Democratic Republic, and Vietnam, access to safe water and sanitation has been steadily increasing with economic growth [9,11].

While countries embarking on a path of sustainable development can incorporate environmental policies directly into their economic strategy at any time, most countries have followed the grow-now-and-clean-up-later approach. The fast growers among developing countries, such as China, Indonesia, Korea, and Thailand, have paid severely in terms of deteriorating environmental quality. This has recently become an even greater problem for Thailand and Indonesia. When recovering from the economic crisis of 1996–1997, both countries made environmental protection a low funding priority for implementation of even existing environmental policies. Although the economies in the region slowed during 1998 and gradually recovered during 1999 and 2000, the environmental impacts did not follow a similar fluctuating trend and were more or less persistent. For example, the levels of pollution in coastal waters showed no incremental reduction during the 1997–2000 period [14]. Economic growth in the region was, and continues to be, strongly tied to export-oriented policies, high savings rates, sound macroeconomic policies, and strong institutional frameworks [15].

Despite claims that the region contains a “wealth of natural resources” [16] environmental degradation in Asia is indicated by a precipitous decline in living and non-living resources; loss of habitat, species and environmental services; and growing levels of pollution and waste production. Environmental problems are increasingly regional in nature, either because they are common and shared problems, or because their causes or consequences cross borders. The Asia’s changing political economy and modes of production contribute to environmental problems. Also subsistence lifestyles, which remain heavily dependent on the direct exploitation of natural resources and environmental services, still constitute the basic means of survival for over half the region’s population. However, the leading cause of environmental decline and resource depletion has been the “industrialization of Asia within the world economy” [17]. From an economic perspective, private gains have come at the expense of the public or common good embedded in environmental systems. The environment continues to be exploited in the process of economic activity [18]. The damaging environmental consequences have been and continue to be extensive while the region is becoming “dirtier, less ecologically diverse and more environmentally vulnerable” [19].

Deforestation, desertification, land degradation and the loss of arable land have become enduring features of environmental decline in East Asia. According to the Asian Development Bank [18], “pressure on land in the Asia and Pacific region is most severe...compared to other regions of the world.” Deforestation offers some of the most “visible evidence of the rate of environmental change” [17]. Primary forests have been severely depleted and forest cover continues to be lost at a rate of approximately 1 per cent per year [18]. About 20% of vegetated land in East Asia suffers soil degradation from water logging, erosion, and overgrazing. Severe land degradation in China, Thailand, and Vietnam threatens several ecosystems with irreversible damage [11]. Biodiversity in 50%–75% of coastlines and protected marine areas in East Asia is classified as highly threatened.

In this region the rule of law, political stability, and historical context cumulatively play an important role in defining a country’s growth. Despite some variability from country to country, Asia has certain commonalities, including, colonial rule accompanied by a lasting influence from Europe and/or the U.S., and political instability, which impact economic growth and the ability to compete in regional and global economic activity [14].

Under the auspices of the Environmental Protection Agency (EPA), the United States has negotiated a number of government-to-government bilateral agreements and has established a series of bilateral environmental programs. It has also supported a feasibility study on the establishment of an Association of South East Asian Nations (ASEAN) network for the assessment and promotion of environmentally sound technologies. However, in spite of growing global demands that the “new” world environmental order should be based on solidarity and collective responsibility, neither U.S. environmental policy towards the region nor the regional consequences of its international environmental policy meets this test. The results of recent research have revealed that the U.S. is fundamentally “self-regarding” rather than “other-regarding” in the

various dimensions of its environmental relationship with the region and suggest that the consequences for both the region and for the U.S. may be substantial. Continued environmental degradation in the region has the potential to undermine other U.S. policy goals in terms of its reputation, economic objectives, and even its more orthodox geopolitical security objectives [20]. Moreover, the ASEAN countries have made it quite clear that they wish to see the U.S. reconsider its position on Kyoto in view of the global nature of climate change [21].

Controlling the common causes of global environmental degradation seems daunting because it originates with a large number of economic activities considered essential to growth. Moreover, factors that contribute to environmental degradation differ from nation to nation, depending on the stage of development. For example, most developing nations depend on fossil fuel combustion for economic production and are unlikely to switch to cleaner, but more expensive fuels. While stricter environmental regulations force developed nations to use cleaner and more efficient energy sources, other industrial practices like the use of synthetic fertilizers in modern agri-businesses contribute to the destruction of the ecosystem [22].

In fast and slow growing economies, developing and developed nations, evidence of the declining quality of natural capital indicates heavy costs and diminished prospects for future growth. Segments of the population that are already multiply disadvantaged—the poor, women, and young children—are forced to bear the brunt of environmental degradation. For example, when industrial toxic effluents degrade water quality, the poor often lack access to purified municipal water supplies or the resources to invest in water filters and other purification systems. As a result, human damage may be irreversible, including the loss of genetic material.

The complex causes and effects of global environmental degradation demand development strategies that require adherence to standards of growth that promote sustainability of natural capital and compatibility with domestic and external economic stability. This translates into growth that does not excessively degrade the natural environment and includes the support of the poor and vulnerable. Typically, the state is responsible for development strategies that orchestrate economic growth and environmental management, and, in this role, should focus on collaborative approaches with local communities and the private sector that balance economic and social performance. Global environmental problems, while challenging, do offer opportunities to address national problems if international cooperation can be secured, which in return balances economic and social measures of success [23,24].

While development strategies and plans are essential for highlighting important environmental issues, they are less effective in identifying priorities for action and making explicit the process of necessary policy reform. As a result, policy matters, documentation, and dissemination of successful cases and specific experiences in environmental management take on added importance [23,24]. Therefore, various national, regional, and international agencies have striven to document and share evidence of specific cases of good practices in sustainable development. Yet, the record shows that attempts

to reach consensus, set a standard for good practices in sustainable development, and obtain compliance have been less successful in the United States than in Europe.

2.1.4 Sustainable Development in the United States

Serious consideration of sustainable development in American political practice and public policy is relatively recent. Although recognition of its importance is widespread, efforts to translate its implicit principles into political practice have been uncoordinated and inconsistent. At the federal, state, regional, and local levels, however, accumulating evidence shows that many of the ideas advocated by proponents of sustainability are being applied, often experimentally, in different policy domains.

As early as 1993, the National Commission on the Environment, a prestigious group of private individuals including four former heads of the U.S. EPA, called for rethinking environmental policies and urged that “U.S. leadership should be based on the concept of *sustainable development*, and the merging of economic and environmental goals in the concept of sustainable development can and should constitute a central guiding principle for national environmental and economic policymaking” [25].

In 1997, President Clinton took up the challenge by appointing a new President’s Council on Sustainable Development. The council, consisting of some twenty-five leaders from industry, government, and the environmental community, met over a period of six years and issued several reports [25]. However, after 1997, the Republican-dominated Congress was indifferent or hostile to the idea of sustainability, and the council’s work was largely disregarded by other federal agencies. The EPA did introduce some new community-based environmental protection programs to encourage state and local governments to adopt sustainable development projects, and other departments attempted to define sustainability goals and to remediate environmental degradation caused by federal agencies including the Department of Defense [26].

The federal government continues to promote the concept of sustainable development through incremental, modest innovations in its own structure, such as the Interagency Working Group on Sustainable Development Indicators and numerous study initiatives within virtually all major federal departments. For example, in 2002 and 2003 the EPA initiated several important reforms of innovative community-based approaches to environmental management that focus on citizen participation [27–29]. Several state governments in the U.S. have adopted environmental policy innovations in the management of hazardous waste. These state-sponsored, non-federally mandated initiatives to protect the environment support the general principles of sustainable development [30].

Among federal agencies, the ecological precepts on which sustainability ideas are grounded are being tested and implemented by the major land management agencies—the Bureau of Land Management, the Forest Service, the National Park Service, and the Fish and Wildlife Service—through the

development of *ecosystem management*. For the most part, however, sustainable development has been regarded as “someone else’s problem” and has remained outside the vocabulary of U.S. politics, particularly at the national level [31].

Since 2001, President George W. Bush has not supported the concept of sustainable development, preferring instead the older concept of environmental “stewardship.” His policies appear to assume that scientific and technological advances brought about by global economic growth will allow humans to overcome or adapt to future environmental challenges. As in the Reagan Administration, environmental concerns have been relegated to the margins of policymaking.

In fact, empirical evidence indicates that the U.S. does not fare well on measures of environmental sustainability. One quantitative index, developed at Yale and Columbia Universities, ranks the U.S. 45th out of 146 countries studied—behind nations such as Japan, Germany, Russia, and even Botswana, Croatia, and Estonia [32]. Further, the fact that the U.S. has not ratified international environmental treaties such as the Kyoto Protocol (1997), the Convention on Biological Diversity (1992) and its Biosafety Protocol (2000), the Basel Convention on transboundary movement of hazardous wastes (1989), the Stockholm Convention on persistent organic pollutants (2001), and the Convention on the Law of the Sea (1982) does not speak well of U.S. global environmental stewardship.

President George W. Bush’s rejection of the Kyoto Protocol, which entered into effect on February 16, 2005, has isolated the U.S. from virtually all of the rest of the world on climate change diplomacy. More than 140 other nations have ratified the protocol, including all other industrialized nations, except Australia. Moreover, the U.S. has attempted to block negotiations on targets for further greenhouse gas reductions following the end of the Kyoto period in 2012 [33]. President Bush’s separate plan for gradually reducing U.S. greenhouse gas “emission intensity” (the volume of emissions per unit of economic output) by inviting companies to voluntarily submit data to a national emissions registry is not likely to have much effect. According to one estimate, under Bush’s policy, total U.S. greenhouse gas emissions will *rise* 14% over 2000 levels and 30% above 1990 levels by 2010 [34]. However, Bush’s support for new technologies such as vehicles powered by hydrogen fuel cells and zero-emissions coal-fired power plants may help to provide solutions in the decades beyond that [35].

Several climate change bills have been introduced in the U.S. Congress. The Climate Stewardship Act of 2003, sponsored by Senators Joseph Lieberman (Democrat, Connecticut), and John McCain (Republican, Arizona), failed to get passed by a 43–55 vote on October 30, 2003. This bipartisan legislation, which is likely to be considered again in the 109th Congress (2005–2007), would cap greenhouse gas emissions from electricity generation, transportation, industrial, and commercial sectors in the United States at 2000 levels in 2010 and at 1990 levels in 2016 [36,37].

The European Union has already created a cap-and-trade program covering about half of its industrial carbon dioxide emissions, beginning in 2005. Because many multinational corporations are subject to these and other national restrictions (e.g., in Japan and China), pressure will likely mount for a similar

U.S. system that might be linked to an international trading regime in the future [38]. In the meantime, many state and local governments in the U.S. are taking actions to stem greenhouse gas emissions without waiting for the federal government to act [39,40].

The governments of many countries, particularly those associated with the Organization for Economic Cooperation and Development (OECD), have adopted many of the international standards for sustainable development in their national strategies and practices. However, the U.S. remains one of only six of the thirty OECD countries that do not have a national sustainable strategy. The U.S. has instead adopted a decentralized approach and emphasized public/private sustainable development partnership to promote economic growth, social development and environmental “stewardship” [41].

2.2 National Strategies and Good Practices in OECD Countries

Most OECD countries have developed and implemented national strategies for sustainable development (NSSD) in accordance with the 1992 mandate of *Agenda 21*. The sustainable development strategy process offers an opportunity to build on complementary programs in the economic, environmental, and social spheres to improve the long-term effectiveness of government policy agendas. In 2001, the OECD Development Assistance Committee (DAC) developed a set of guidelines to assist developing countries in formulating their national strategies for sustainable development [42]. These guidelines were based on a number of key principles, such as broad consultation, country ownership, and realistic targets. In 2002, the UN Department of Economic and Social Affairs also developed guidelines for preparing a national sustainable strategy [43]. These guidelines focused on five precepts: (1) integrating economic, social, and environmental objectives, and ensuring balance across sectors, territories and generations; (2) ensuring broad participation and effective partnership; (3) promoting country ownership and commitment; (4) developing capacity and an enabling environment; and (5) focusing on outcome and means of implementation. Comparisons show that the UN and OECD guidelines are very similar with regard to a number of criteria (Table 2.1).

The main principles of good practices recognized by the UN and OECD include:

Policy integration—national strategies should give consideration to economic, social and environmental concerns in integrated approaches and plans.

Intergenerational timeframe—national strategies should adopt a long-term timeframe that enables inclusion of intergenerational principles and indicators.

Analysis and assessments—integrated assessment tools should be used to identify the environmental, economic, and social costs and benefits of policy and strategy options.

Indicators and targets—strategies should be based on structured indicator systems to assist in monitoring progress and to serve as quantitative targets.

Table 2.1 Comparison of UN and OECD Principles for National Strategies for Sustainable Development (UN DESA 2002 OECD 2001)

<i>Main Principles</i>	<i>OECD</i>	<i>United Nations</i>
Policy Integration	Integrate economic, social and environmental objectives comprehensive and integrated strategy	Integrate economic, social and environmental objectives link different sectors
Intergenerational timeframe	Consensus on long-term vision	Shared strategic and pragmatic vision link short-term to medium/long term
Analysis and assessments	Base on comprehensive and reliable analysis build on existing processes and strategies	Anchor in sound technical and economic analysis build on existing mechanisms and strategies
Indicators and targets	Targeted with clear budgetary priorities	Realistic, flexible targets
Coordination and institutions	High-level government commitment and influential lead institutions	Strong institution or group of institutions spearheading the process
Local and regional governance	Link national and local levels	Link national, regional, and global levels
Stakeholder participation	Effective participation people centered	Access to information for all stakeholders transparency and accountability partnership among government, civil, society, private sector, and external institution
Monitoring and evaluation	Incorporate monitoring, learning, and improvement	integrated mechanisms for assessment, follow up, evaluation and feedback

Coordination and institutions—a wide range of government departments and agencies should be involved in the formulation and implementation of national strategies, with overall responsibility in the office of the Prime Minister or equivalent.

Local and regional governance—local and regional authorities should be fully involved in the development of national strategies, with certain delivery aspects assigned to sub-national levels.

Stakeholder participation—stakeholders (e.g., businesses, unions, non-governmental organizations) should participate with government representatives in commissions responsible for developing and implementing national strategies.

Monitoring and evaluation—independent bodies or processes should be established to act as watchdogs monitoring implementation of national strategies and providing recommendations for their improvement.

Table 2.2 Good Practices by Selected OECD Countries (EEAC 2005 UN DESA 2004)

<i>Good Practices</i>	<i>OECD Countries</i>
Policy integration	New Zealand, Norway, Sweden
Intergenerational timeframe	Finland, Germany, Sweden
Analysis and assessments	European Union, Switzerland, United Kingdom
Indicators and targets	Austria, Czech Republic, Ireland
Coordination and institutions	Finland, France, Germany
Local and regional governance	Korea, Netherlands, United Kingdom
Stakeholder participation	Czech Republic, Portugal, Slovak Republic
Monitoring and evaluation	Canada, France, United Kingdom

A review of the OECD countries' national strategies shows that many lack the basic design and implementation elements recommended by both the OECD and the UN [44]. There is no single method, specific entry point, or ideal coordinating mechanism for these strategies that will reflect the economic, environmental, social, and cultural specificities of countries. However, the practices in the strategies of the OECD countries that are more likely to yield positive results can be identified, and these, in turn, can inform further analysis and refinement of existing guidelines. The extent to which the OECD countries have followed the guidelines for good practices is reviewed in the remainder of this chapter (Table 2.2).

2.2.1 Policy Integration

The integration of economic, environmental, and social objectives of sustainable development is one of the most difficult balances to achieve in formulating a national strategy. In practice, most national strategies focus on environmental issues with some attempts to incorporate economic aspects. The social dimension has been the most neglected. Seldom are social goals and their relevant indicators woven into a comprehensive strategy. Most commonly, social objectives are simply listed alongside other objectives. As a result, few national strategies develop processes and mechanisms for considering and making trade-offs among economic, environmental, and social objectives in overall policy-making. Moreover, there exist striking differences across countries in how they interpret social objectives—from a focus on the health consequences of environmental policies, to concerns about ethnic minorities and gender balance, to broader considerations about the quality of life, sustainable consumption, and social relations (e.g., poverty, crime, employment, education).

New Zealand gives equal weight to social sustainable development in relation to the economy and environment, with special attention to demographic trends, new roles of women in society, improvements in health and housing, and

better integration of Maori communities. Norway includes quantitative targets for enhancing social conditions at home and abroad, particularly human capital, such as level of education, life expectancy, and long-term employment. In Sweden, social considerations are well integrated into the Swedish *National Strategy for Sustainable Development*, including the fight against poverty, sustainable consumption and production, population and public health, social cohesion, welfare and security, employment and learning, and regional and community development [45].

2.2.2 Intergenerational Timeframe

In addition to balancing economic, environmental, and social objectives, a basic tenet of sustainable development mandates “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs” [1]. The ever depleting stocks of assets (e.g., man-made, natural, human, and social capital) that underpin sustainable development must be preserved over time. This calls for national strategies that support intergenerational equity by setting long term timeframes in their sustainable development plans.

The national strategies of most countries have specific short-term timeframes (e.g., 2000–2005). Others have medium-term timeframes of ten years, such as the Czech Republic Strategy for Sustainable Development that covers the years 2004–2014. While short and medium-term timeframes facilitate monitoring progress on specific goals and dealing with change within those time periods, they leave national strategies vulnerable to political whims. Although some strategies include an inherent renewal expectation or periodic renewals required by law, they may still be subject to the ideological or political agendas of successive governments. Strategic planning frameworks are more likely to be successful when they are based on long-term vision backed by strong and lasting political commitment.

To this end, Germany and Sweden have adopted timeframes of 18–30 years in their national strategies for sustainable development. Sweden’s strategy has a 25 year planning perspective, while allowing that measures taken in accordance with the strategy may need to be reassessed more frequently. The German strategy developed in 2002 contains quantified and time-bound indicators extending to 2020 [46].

While a longer timeframe allows for better incorporation of intergenerational considerations, these are difficult to define and quantify. Finland, Sweden, and Germany have included indicators addressing intergenerational concerns in their strategies. In economic terms, these might relate to relieving public debt; in environmental terms, concern for the preservation of resources; and in social terms, the provision of adequate retirement incomes. Related to the environmental dimension, for example, the Swedish strategy emphasizes that “the overall objective of environmental policy is to hand over a society to the next generation in which the major environmental problems have been solved” [45]. Finland includes intergenerational indicators, such as government financial

liabilities and preservation of biodiversity in monitoring its sustainable development. Germany supports intergenerational equity by avoiding high public debt and short-term economic decisions that could increase burdens on future generations.

2.2.3 Analysis and Assessments

Sound analysis and ongoing assessments that utilize existing tools and data, including environmental assessments, cost-benefit analyses, and accounting frameworks play crucial roles in providing information on changing economic, environmental, and social conditions, pressures and responses, and their correlations with strategy objectives and indicators. In the evaluation process, those underlying trade-offs among economic, environmental, and social objectives are identified that can assist in priority setting and policy making for sustainable development. However, with the exception of a few countries, most national strategies lack provisions for systematically assessing the costs and benefits of alternative actions and informing trade-offs across the full range of sustainable development issues.

The most commonly used assessment tools come from the environmental policy field. Environmental Impact Assessments (EIA) attempt to gauge the potential ecological effects of policies before they are implemented. In Canada, the cabinet Directive on the Environmental Assessment of Policy Plan and Program Proposals requires that government agencies incorporate environmental considerations in their reviews of various proposals, including positive and negative effects, and report these to the public. Other countries—including Denmark, Greece, Italy, and Spain—use strategic environmental assessment (SEA) to discern potential outcomes. Ireland and Portugal employ strengths, weaknesses, opportunities, and threats (SWOT) analysis for sustainable assessments and priority setting.

Budget mechanisms that show links between spending decisions and sustainable development impacts are also useful assessment tools. In the Netherlands, each ministry is requested to give an overview of its contribution to sustainable development in its annual budget that is discussed in Parliament. Sweden, Norway and a few other countries have similar green budgeting approaches that outline the potential sustainable development impacts related to public spending on proposed policies and programs.

More sophisticated analytical tools are now being tried in some countries. For example, the United Kingdom's *Sustainable Development Strategy* adopted Integrated Policy Appraisal (IPA) to assess the potential impact of policy proposals in the following categories: public expenditure and economic impacts, regulatory impacts, rural proofing, health impact assessment, environmental appraisal, policy appraisal for equal treatment, and climate change. The assessments are used to better understand linkages among economic, social, and environmental systems and to assist government departments in assessing the total sustainability impacts of policy proposals [47]. Switzerland uses a newer tool, Strategic Sustainability Assessments (SSA), in its planning processes to

review sustainable development linkages and the overall effects of potential policies and actions. For example, SSA is used to evaluate the impact of draft legislation and development projects on economic, environmental, and social dimensions of sustainable development and to identify potential deficiencies early enough in the process to influence the direction taken [48]. Similarly, the *European Union Strategy for Sustainable Development* established that all major legislative proposals should undergo Sustainability Assessments, meaning “an assessment of the potential economic, environmental and social benefits and costs of action or lack of action, both inside and outside the EU” [49]. Proposals should include, where relevant, the effects of gender equality and equal opportunities and should identify the groups who bear the burden of change so that policy makers can judge the need for measures to help these groups adapt.

2.2.4 Indicators and Targets

The development and incorporation of quantitative indicators can help to minimize the discrepancies between the intended outcomes set forth in national strategies and what is or can be realized in practice. Statistics and indicators make it easier to identify and assess trade-offs among the economic, environmental, and social dimensions of sustainable development. Indicators can be used to track progress along sustainable paths and define performance targets. They also contribute to policy transparency and accountability in sustainable development strategies.

Most OECD countries have developed a set of indicators as part of their national strategies. These indicators vary widely across countries and are generally organized according to specific themes and sub-themes. Some strategies specify relatively few, mostly environmental, indicators. Others adopt large indicator systems. The New Zealand Program of Action is based on 40 indicators that provide insight on the themes of population changes, environmental and ecosystem resilience, economic growth and innovation, skills and knowledge, living standards and health, consumption and resource use, and social cohesion. Switzerland monitors sustainable development according to the MONET indicator system, which includes 115 indicators for 26 themes, allowing it to track the current situation and trends as well as the country's position relative to other countries [48].

A few countries are refining their structural approaches and choice of indicators as they revise their national strategies. In Norway, a special commission proposed a new indicator set to monitor the Norwegian Action Plan for Sustainable Development, *National Agenda 21*. This includes 16 indicators that identify and assess the welfare effects of the various components of national wealth: financial capital, real capital, human capital, natural capital and environmental capital. Finland developed its first set of indicators in 2000 and revised and broadened them in 2004 to include 68 indicators in eight categories and three sustainable development dimensions.

Some countries regularly track their progress on the basis of sustainability indicators, and a few have established quantified time-bound targets. For

example, the German strategy uses indicators in fiscal, economic, education, research, housing, special planning, crime prevention, energy, and environmental areas as targets. The U.K.'s new strategy, *Securing the Future*, contains 68 indicators, 20 of which are linked to specific quantifiable goals. Progress on indicators is reported annually, and a "traffic light" approach is used to show areas of improvement and deterioration [47].

However, the most comprehensive and overall Good Practices of Indicators and Targets are found in Austria, Czech Republic, and Ireland. The Austrian *Strategy for Sustainable Development* specifies 52 indicators in four action fields—Austria's quality of life, Austria as a dynamic business location, Austria as a living space, and Austria's global responsibility—and includes 20 key objectives with quantified time-bound goals. The Czech Republic strategy outlines two sets of indicators, each organized according to six categories: economic, environmental, social, research and development and education, European and international context, and good governance. One set (116 indicators) is used to monitor progress on specific elements, while the other set (24 indicators) is used in communications with policy makers and the public. In Ireland, the government's work program to develop indicators of sustainable development to implement the *Strategy for Ireland* includes the formulation of green national accounts and satellite accounting approaches to supplement economic accounts.

2.2.5 Coordination and Institutions

Achieving sustainable development depends heavily on high-level political commitment, well-functioning government institutions, and overcoming coordination failures in public policies. Involving and coordinating a wide range of government departments compel strategists to take a broad view of issues, give voice to a range of dispersed interests, and develop trade-offs across policy areas. However, more important than all-inclusiveness is placement of responsibility for overseeing the different participating agencies and coordinating strategy implementation to achieve maximum coherence. Assigning responsibility for implementation of a national strategy to a department that lacks authority over other agencies it will oversee will not be effective. The best approach is to assign overall coordination to a prime minister's or president's office which has greater authority than line ministries to demand inputs and resolve conflicts, which is the case in France, Finland, Portugal, and Germany. The national implementation mechanisms of each country varies and reflects whether its sustainable development strategy provides an overarching framework for action or is a less effective collection of existing or fragmented strategies.

In most OECD countries, overall responsibility for strategy implementation is housed in the Ministry of Environment, either directly or indirectly, through a coordinating committee which it oversees. This is true for Austria, Belgium, Denmark, Greece, Italy, Ireland, Luxembourg, the Netherlands, and the U.K. Although the U.K. replaced its Green Cabinet with a Sustainable Development

Cabinet, the Department of Environment, Food and Rural Affairs (DEFRA) leads the preparation of sustainable development strategies and manages implementation across the government. In 2005, Sweden changed its Environment Ministry into the Ministry of Sustainable Development, responsible for coordinating the government's work on sustainable development.

Another approach is to assign responsibility for national sustainability strategies to finance ministries that can assure that strategic management is linked to fiscal priority setting, national expenditure, and revenue generation. Norway has placed responsibility for its sustainable development plan in the Ministry of Finance, while in the Czech Republic, the Governmental Council for Sustainable Development is chaired by the Deputy Minister for Economic Affairs.

In some countries, individual ministries or agencies are responsible for preparing and implementing strategies that remain largely uncoordinated. Canada has a system in which each governmental department develops its own sustainable development strategy and approach; however, it is now attempting to formulate an overall national plan and related coordinating mechanism.

The most comprehensive overall Good Practices in Coordination and Institutions are found in Finland, France, and Germany. In Finland, the National Commission on Sustainable Development is responsible for the preparation and implementation of the national strategy and is chaired by the Prime Minister. Similarly, in France, the inter-Ministerial Committee for Sustainable Development, chaired by the Prime Minister, has overall responsibility for France's sustainable development strategy. And in Germany, the Federal Chancellery is formally in charge of both the formulation and implementation of the national strategy for sustainable development, overseeing the input of various Ministries and retaining the last word in inter-ministerial disagreements.

2.2.6 Local and Regional Governance

Sustainable development strategies should involve local authorities and be a two-way interactive process between national and local governmental entities. The main strategic principles and directions should be set at the central level, but the more detailed planning, implementation and monitoring can also be undertaken at a decentralized level, with appropriate transfer of resources and authority. Under the best of conditions, orchestrating sustainable development initiatives is not easy, but when different geographical jurisdictions have competing agendas, the task can be onerous. Only a few OECD governments have attempted to fully coordinate with the sustainable development efforts at sub-national government levels.

Coordination among different levels of government is inherently more difficult in federal states (e.g., Australia, Belgium, Canada, and Switzerland) where powers over sustainable development policies are divided among various levels of government. The decentralized institutional structure in federal countries often requires special procedures to leverage change and implement sustainable development strategies. Canada's lack of a national strategy is in part

attributed to the enormous time-consuming joint effort it would take to coordinate its federal and provincial governments.

Some countries have developed separate but equal approaches for devolved regions. The United Kingdom developed a U.K. strategic framework for sustainable development, but with emphasis on delivery at the regional level in Scotland, Wales, and Northern Ireland. France devotes attention to the “territories” in its sustainable development strategy that encompasses both regional and sub-regional levels of government [47].

Countries such as France and Portugal have fully included local and regional authorities in the preparation of their national sustainable development strategies. The U.K. also has a strong local component in its strategy, including Local Strategic Partnerships and Sustainable Community Plans. Some countries (e.g., Denmark, Iceland, Ireland, Korea) are coordinating national and local implementation of sustainable development strategies through local Agenda 21 processes. Chapter 28 of Agenda 21 contains guidance for local initiatives in support of their overall goals where local authorities are asked to develop their own sub-strategies to suit their economies and specific circumstances.

The overall most comprehensive Good Practices in Local and Regional governance are found in Korea, Netherlands, and the U.K. In Korea, in accordance with its *National Environmental Vision for the New Millennium*, regional governments have adopted a Local Agenda 21 which is coordinated by the Korean Council for Local Agenda 21. In the Netherlands, the *National Strategy for Sustainable Development* gives general guidance for sustainability processes at sub-national levels that are to be tailored to the local situation. The U.K.’s shared framework for sustainable development, *One Future—Different Paths*, establishes common goals for England, Scotland, Wales and Northern Ireland without compromising the strengths offered by regional delivery and a diversity of approaches.

2.2.7 Stakeholder Participation

Active stakeholder participation (e.g., businesses, trade unions, non-governmental organizations, indigenous peoples) should be an inherent feature in the development and implementation of national strategies for sustainable development. Sustainable development involves trade-offs among economic, social, and ecological objectives that should not be determined by governments alone. Decisions and value judgments, which involve and affect the public, require participatory approaches that should engage this same public through effective communication. Ultimately, the extent of stakeholders’ involvement in policy processes depends upon national institutional settings and preferences. Structures vary widely across OECD countries in terms of the status, timing, and breadth of involvement of stakeholders.

Several countries have implemented ad hoc participation processes, in which stakeholders are consulted in the development of national strategies, but less so in implementation and subsequent development phases. Public surveys of varying magnitudes have been used to solicit comments on draft strategies.

For example, in Belgium, the Preliminary Draft Plan for sustainable development was placed on a public website and subsidies were given to public interest associations to support information projects related to the consultation. In Finland, stakeholder groups were asked to prepare their own sustainable development strategies in tandem to the government strategy, as part of the National Sustainable Development Partnership Process; this led to a number of partnerships, for example, on sustainable transport solutions, protection of the Baltic Sea, and others.

Some countries include stakeholders on special commissions and councils that provide advice to but are separate from the government bodies that implement the strategies. These include the Federal Sustainable Development Council in Belgium, the National Council for Sustainable Development in France, the Council on Sustainable Development in Germany, the National Sustainable Development Council in Ireland, and the Sustainable Development Commission in the U.K.

Other countries include stakeholders alongside government bodies as part of their overall coordination structure for sustainable development. These include the Committee for a Sustainable Austria, the Government Council for Sustainable Development in the Czech Republic, the National Commission on Sustainable Development in Finland, the National Sustainable Development Council in Ireland, the Board of Sustainable Development in Poland, the Council for the Environment and Sustainable Development in Portugal, and the Commission for Sustainable Development in the Slovak Republic.

Ideally, national strategies for sustainable development should be implemented by bodies with wide representation from social partners and other stakeholders in order to promote consultation, dialogue, and more innovative approaches. The overall Good Practices in Stakeholder Participation are found in the Czech Republic, Portugal, and the Slovak Republic. In the Czech Republic, the Government Council for Sustainable Development includes the government, businesses, academics, NGOs and other stakeholders and serves as the umbrella group for developing, implementing, and revising the national sustainable development strategy. In Portugal, one of the four principles of the national strategy is to progress towards a society of solidarity and knowledge. This principle includes interventions to strengthen the citizen components of education and greater access to information and participation in decision-making, which is exemplified in the Council for the Environment and Sustainable Development. The Slovak Republic has broad consultations with stakeholders in the development of its national strategy and includes the main business and non-governmental groups on the *Slovakian Commission for Sustainable Development* to oversee implementation.

2.2.8 Monitoring and Evaluation

National strategies for sustainable development are not meant to be static plans, but rather dynamic processes that evolve as more information becomes available about priorities, technological options, policy cost-effectiveness, and viable

problem-solving techniques of implementation. Learning, adaptation, and continual improvement should be characteristics of national strategies. This ideally requires an external, independent agency or process to monitor the implementation of national sustainable development strategies, as well as feedback for necessary adjustments and improvements.

Both Canada and the U.K. have opted for an independent auditing process as learning tools for sustainable development. In Canada, the Commissioner of the Environment and Sustainable Development (CESD) in the Office of the Auditor General is responsible for reporting to the parliament on the extent to which departments are implementing and achieving the goals and objectives laid out in their sustainable development strategies. These strategies must be reviewed, revised, and retabled every three years, in order to provide a regular opportunity for learning and adaptation. In the U.K., the role of the Sustainable Development Commission, established in 2000, was strengthened in 2005 so that it moved from “critical friend” to “watchdog”; it utilized both the National Audit Office and the Audit Commission to oversee implementation of the national strategy. New Zealand has appointed a similar but more limited Parliamentary Commissioner for the Environment, who primarily audits the Environment Ministry.

France developed a methodology for a unique peer review process to promote experience sharing with other countries in support of the continual improvement of its national strategy. In February 2005, France subjected its own national strategy to a peer review by a group of four peer partner countries—Belgium, Ghana, Mauritius and the U.K. The peers made 13 general and 42 specific recommendations, including how to promote sustainable development partnerships with developing countries, establish more participatory processes, and ensure effective monitoring of the national sustainable development strategy. The French hope “that this approach will be found to have generic value that can be used (and developed further) by other countries through similar exercise” [50].

Other countries are also developing oversight bodies. Belgium assigned this task to the Federal Planning Bureau in which a task force periodically reports on the quality of the federal government’s sustainable development policies and programs. In 2004, Germany established a Parliamentary Committee for Sustainable Development that calls for plenary debates and gives recommendations to the federal government regarding strategy implementation.

Overall, the most comprehensive Good Practices in Monitoring and Evaluation are found in Canada, France, and the U.K. In 1995, Canada established a Commissioner of the Environment and Sustainable Development (CESD) to audit the sustainable development strategies of different government departments and report each year to Parliament on progress and challenges in implementation. France initiated peer reviews of national strategies for sustainable development involving civil society, international organizations, and other countries that make recommendations on the process, content, indicators and implementation. In the U.K., the Commissioner on Sustainable Development (CSD) has been assigned a reinforced “watchdog” role beginning in 2006, whereby it will monitor implementation of the U.K. strategy and report regularly to the Prime Minister on strengths and weaknesses [47].

2.3 Conclusion

The concept of sustainable development as a constraint to unchecked growth is gaining support from governments, corporations, and environmental groups around the world. It is foolhardy, even dangerous, to ignore the precaution that growth should not exceed levels consistent with the health and well being of future generations. However, this happens in the frenzy to be competitive in the world economy when nations follow a globalization process founded upon an upward, unlimited, and unchecked economic growth model that seriously threatens our global future. The process inevitably leads to the exhaustion of many of the world's natural resources, such as fauna, flora, and non-renewable sources of energy, as well as to the deterioration of natural processes that are crucial for any ecosystem's viability of life on the planet. Kenneth Boulding, a leading pioneer of sustainability, sarcastically quipped, "Anyone who believes that exponential growth can go on forever in a finite world is either a madman...or an economist" [52]. Others who understand the gravity of unbridled growth point also to the growing awareness of the social unsustainability of the current style of development, that is, globalization, taking place in the midst of increasing social inequality and exclusion, a reality which certainly precedes but also has been exacerbated by the very process of globalization [51].

The concept of sustainable development itself has many meanings and requires much more discussion and research than it has had so far in the U.S. However one defines sustainable development, concrete indicators are still urgently needed to measure progress toward it in different sectors. Traditional measures of economic welfare are just no longer adequate. Standard national accounting indices that measure gross national product or gross domestic product in monetary terms fail to capture many facets of human and environmental well being. For example, these indices count all expenditures for pollution control and cleanup as part of the output of goods and services but do not subtract the economic value of losses caused by environmental degradation and depletion of nonrenewable resources. Increased pollution thus counts positively rather than negatively, whereas depreciation of environmental capital is ignored. A number of scholars and international agencies, including the World Bank, have been developing alternative measures of welfare that more accurately value environmental goods and services and overall quality of life. The U.S. does considerably worse on some of these scales than on conventional economic indices.

Beyond economic indicators, the development not only of better measures of environmental quality per se—that is, the health of ecosystems and the limits to the stresses we can place on them—but also of improved gauges of progress in human activity to reduce society's impacts on natural systems is essential. For example, all nations need to focus on trends in energy consumption, green house gas emissions, land use, waste generation, recycling, and reuse of materials, agricultural practices, and driving habits. However, broad social and cultural factors, such as income inequality, population growth, educational patterns, political representation, and access to information, can also be considered important indicators of sustainability. Many governmental and

nongovernmental organizations are working on such indicators, including the EPA and other federal agencies and state and local bodies [52]. Until we begin to think differently and creatively about basic indicators of success, we are unlikely to make genuine progress toward sustainable development.

Although significant changes do not require that we change the whole world all at once, they do require that we draw more complex connections between sustainability and our everyday habits and behaviors, that we act politically at the local level to infuse sustainability within the civic life of communities, and, more importantly, that we recognize an allegiance to our global community. The movement toward a sustainable world requires far more international cooperation and governance than we now have [53]. The challenges we face are ultimately human and political—meeting basic human needs, limiting population growth, restricting consumption of nonrenewable resources, building a sense of world community, and negotiating mutually beneficial agreements among nations. These global sustainable goals can be achieved only within an extended, intergenerational timeframe with a collaborative, enlightened, and powerful political leadership at the helm.

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