

# Flying Blind: Assessing Progress Toward Sustainability

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## **SUMMARY**

For development to be sustainable, it must combine a robust economy, rich and resilient natural systems, and flourishing human communities. Rational pursuit of these goals demands that we have clear policy targets, operationalize them in terms of actions and results, devise analytical tools for deciding priority actions, and monitor and evaluate our progress. Goals that are not measurable are unlikely to be achieved. We invest in what we measure, and over time we become what we reward. Without valid and reliable assessment methodology and tools, we run the risk of achieving unintended and unanticipated results, and of wasting much of our investment.

When the nations of the world convene in Johannesburg, South Africa for the World Summit on Sustainable Development, it will again be apparent that our worthwhile dreams have exceeded our capacity to manage effectively, in large measure because we have no systematic, valid, and reliable way to evaluate our progress, and no fixed point of responsibility for this task.

This chapter offers a challenge to governments whose rhetoric calls for democratic participation, transparent actions, and real results, but whose practical actions fall short of these aspirations. There are no other commitments remotely achievable for the Johannesburg Summit that could be more valuable than a legally binding agreement to create the means to authoritatively, candidly, and openly assess progress toward sustainable development.

### THE SUSTAINABILITY CHALLENGE

As the gavel fell on the adoption of *Agenda 21: Programme of Action for Sustainable Development* in June 1992 in Rio de Janeiro, there was a strong sense that the nations of the world were on the road to sustainability. The catalytic force of the Earth Summit led to the Convention on Biodiversity, the Framework Convention on Climate Change, and the Convention on Desertification, all of which entered into force during the 1990s. While the specifics of financial resources and technology transfer were intentionally left vague, the basis for a global partnership, seemed to be in place.

Institutions were devised for the implementation of the Rio outcomes. In 1993, the General Assembly of the United Nations established the UN Commission on Sustainable Development to “review progress” on each chapter of Agenda 21 and assess overall headway. In 1997, the Kyoto Protocol was negotiated to operationalize the Framework Convention on Climate Change, including legally binding targets for reduction of greenhouse gas emissions. An Intergovernmental Panel on Forests and an Intergovernmental Forum on Forests have been established to apply the Forest Principles in programs for action at the national level.

At every level, although not in every place, the roles of civil society, transnational corporations, and non-governmental organizations (NGOs) have evolved. More than sixty countries have formed national commissions for sustainable development, and more than four hundred cities and municipalities have adopted local versions of Agenda 21. Many corporations seem anxious to be seen as responsive to societal calls to play their part in raising environmental and labor standards worldwide. In 2000, the Organisation for Economic Co-operation and Development (OECD), together with representatives of business, labor, and civil society, produced *Guidelines for Multinational Enterprises*, one of several examples of texts encouraging corporate social responsibility. The World Economic Forum also routinely discusses corporate accountability and the role of corporations in promoting sustainable development.

Yet in 2002, as the gavel is raised to convene nations and their development partners in Johannesburg for the World Summit on Sustainable Development, a working definition of sustainable development remains elusive (Esty, 2001a) and the institutional support

structures for sustainable development at national and international levels dysfunctional to the point of irrelevance (Upton, 2000).

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**A fundamental reason for high levels of dissatisfaction, discord, and unease is the lack of capacity to show real progress against the goals set by the Rio Conference.**

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### **THE RIO DECADE: ASSESSING PROGRESS**

Principle 1 of the Rio Declaration states that a “healthy and productive life in harmony with nature” is at the core of sustainable development and is an entitlement of people around the globe. Much has changed since 1992, but in terms of achieving the goal of sustainability, what have these developments meant? The answer, simply put, is that we don’t know. A summary tour of “facts” serves to illustrate this uncertainty.

#### **Are people richer or poorer?**

The World Bank argues that poor people the world over have increased their incomes, are better educated, and are living healthier and more productive lives. However, when these figures are disaggregated by country, it is difficult to determine how much of the progress alluded to by the Bank has occurred in the past ten years. In many of the least developed countries, annual per capita income has decreased (UN, 1999). The gap between rich and poor has grown wider in many places. By 2000, the income of the richest fifth of the world’s people was seventy-four times that of the poorest fifth, and the assets of the richest two hundred individuals exceeded the combined wealth of the less wealthy forty percent of the world’s population (UNDP, 1999).

The economies of some countries – Singapore, South Korea, Hong Kong, and Taiwan, for example – have done well. Indonesia, Thailand, and Argentina made apparent economic progress for the first part of the Rio Decade, and have faced economic disasters since. In other nations, little has changed. Average incomes in sub-Saharan Africa continue to be stagnant, as they have been since the 1960s, and many of the transition economies of Eastern Europe and Central Asia have suffered through sharp rises in poverty in the 1990s.

### **Is there enough food for everyone?**

Overall food production is sufficient to feed the current global population of more than six billion people. Yet, the inability to transport and distribute that food, interruptions in food supply due to political instability, and chronic poverty have led to unremitting malnutrition in many urban areas and across sub-Saharan Africa. There are no major stocks of food fish that are not experiencing stress and decline, and many are collapsing.

### **Has quality of life improved?**

Life expectancy has risen slightly, with gains in developing countries marginally outpacing those in the developed world (World Resources Institute, 1998). There have been substantial medical breakthroughs, but new threats to human health have also emerged. Major strides have been made in the reduction of diseases that have plagued so many for so long.<sup>1</sup> At the same time, AIDS, the leading cause of death in sub-Saharan Africa, has reduced life expectancy in twenty-nine African countries by seven years (UNFPA, 1999). Children the world over continue to die of treatable illnesses and maladies such as diarrhea, and preventive health care and affordable medicines are unavailable to most of the world's people.

### **Are societies more fair and just?**

The importance of good governance and democratic participation in the authoritative allocation of resources has been emphasized in the negotiated outcomes of every development-related international conference of the decade. Elected governments at the national level have increased from 66 (out of 167) in 1987, to 121 (out of 192) at the end of 2001. In many places, however, democratic reforms are fragile at best, and many of the world's poor associate the growth of poverty with the spread of democracy.

### **Are women and men treated equally?**

The role of women in many societies has changed substantially, and the international community clearly recognizes that gender equality is

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<sup>1</sup> For example, iodine deficiency has been reduced in many parts of the world, and river blindness has been eliminated in eleven countries in West Africa, opening new lands to cultivation and adding years of productive labor. *Dracunculiasis* (guinea worm) cases have dropped from over three million per year, spread over Africa and Asia, to less than 10,000, mostly in the Sudan. Polio is now confined to ten nations, compared to more than 150 in 1992.

a fundamental part of social justice. Women now hold more than ten percent of all national parliamentary seats, and the percentage of female cabinet ministers worldwide has risen from 3.4 in 1987 to 6.8 in 1996. However, two-thirds of the illiterate adults in the world are women and two-thirds of the children who are not in school around the world are girls (UN, 1997).

### **Is the environment better off?**

The world continues to lose habitats and animal and plant species at an astounding rate. The capacity of natural systems to respond to stress has thus decreased, resulting in floods, droughts, and other severe natural disasters. During the 1990s, there was a net loss of forest cover, although the rate of annual loss seems to have declined compared to the rate of annual loss over the decade from 1980 to 1990. Developed countries have increased their forest cover since Rio, while developing countries show substantial deforestation. The health of the world's coral reefs has declined significantly since 1992, with more than half of coral ecosystems currently considered endangered or threatened (Wilkinson, 2000). Efforts to abate land-based marine pollution seem to have had only limited local effect. As Speth argues in this volume, many of the key environmental trend lines are deeply worrisome.

### **Are human demands on the environment sustainable?**

Increasing human populations and inefficient patterns of consumption continue to put additional pressure on already strained resources and natural systems. Every second since the adjournment of Rio has seen the birth of three new souls, each one of whom needs 1,400 calories and four gallons of water a day to survive. Half of all humanity now lives in cities, most of which are situated in coastal areas and river valleys literally on top of some of the world's most productive agricultural lands and marine ecosystems.

Humans have long affected regional weather, yet this generation is the first to demonstrably affect the Earth's climate. Synthetic endocrine disruptors – copycat hormones – are capable of changing basic life processes in ways that are difficult to anticipate. The development of genetically modified species holds great potential for food security but has generated serious concerns for unanticipated and irreversible consequences to human and ecosystem health.

### **WHERE ARE WE ON THE SUSTAINABILITY CURVE?**

Combining these facts and figures does not provide a comprehensive picture of progress toward global sustainability. At best, we can say that some human lives have improved and some are under greater duress. Some natural systems seem to be doing better, others have been irrevocably changed, and none remain unaffected. And the problem is no less serious at lower governance levels. Assessing progress is equally difficult at regional, national, and local scales. National averages mask substantial differences among groups and places within countries, just as global figures obfuscate disparities among nations.

Even when the economy and the environment are considered separately, it is difficult to summarize whether we are better or worse off than a decade ago. From consideration of unconnected facts, even if they gave a valid picture of the “economy” or the “environment,” it is impossible to conclude just where we are in the transition to sustainability.

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**Achieving sustainability requires defining its components in measurable terms and clearly fixing the responsibility to assess progress comprehensively.**

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### **THE VALUE OF MEASUREMENT**

We approach the tenth anniversary of Agenda 21 with few nations having adopted definitions of success in achieving sustainability and little practical clarity at the international level. Although the Millennium Goals<sup>2</sup> and the Monterrey Consensus<sup>3</sup> are substantial steps in the right direction at the international level, we still have no reliable roadmap to follow. Making progress toward sustainability is like going to a des-

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<sup>2</sup> The eight Millennium Goals are set forth in the United Nations Millennium Declaration of September 2000: (1) Eradicate extreme poverty and hunger; (2) Improve maternal health; (3) Achieve universal primary education; (4) Combat HIV/AIDS, malaria, and other diseases; (5) Promote gender equality and empower women, (6) Ensure environmental sustainability, (7) Reduce child mortality; and (8) Develop a global partnership for development.

<sup>3</sup> The Monterrey Consensus is the final document adopted at the conclusion of the UN Financing for Development conference on March 22, 2002, in Monterrey, Mexico, wherein heads of state and government pledged to take a major step toward eradicating poverty and achieving sustainable economic growth around the world. For more information about the conference and the full text of the Consensus, see <http://www.un.org/esa/ffd/>

tionation we have never visited before, equipped with a sense of geography and the principles of navigation, but without a map or compass.

Rational pursuit of sustainable development demands that we have clear goals, that we operationalize those goals in terms of measurable results, that we devise analytical tools for deciding priority actions, and that we monitor and evaluate our progress (Prescott-Allen, 2001). A more quantified approach to sustainable development is necessary.

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**Goals that are not measurable are unlikely to be achieved. We invest in what we measure, and over time, we become what we reward. Without a valid and reliable assessment methodology, we run the risk of achieving unintended and unanticipated results, and of wasting much of our investment in the future.**

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A core set of indicators, marking goals and achievements, could help restructure our understanding of complex environmental and socioeconomic problems and redefine our thinking about appropriate response strategies. Measurement provides an empirical foundation for setting goals, for evaluating performance, for calculating the impact of our activities on the environment and society, and for benchmarking (IISDnet, 2000a).

Good data and information provide the tools for detecting aggregate effects and “tragedies of the commons” in the making. Given the spatial and temporal dispersion of environmental problems, quantification of trends and impacts is critical to the understanding of possible cause and effect relationships and the initiation of a policy response. Moreover, numerical analyses facilitate the evaluation of policy success or failure and allow for faster redefinition of alternatives. Facts, figures, and time series data on key indicators can narrow the range of disputes and reduce the polarization that often marks policy debates – whether about global climate change or pollution of a local lake (Esty, 2001b).

Information systems can transform policy options as well. Comparative analysis helps to target investment, spur competition, and trigger innovation. Better and cheaper data also tend to increase

transparency and permit greater accountability. A quantified approach to environmental policymaking, therefore, could lead to better decisionmaking, improved performance, and greater efficiency by reducing uncertainty, enhancing comparative analysis, defining points of leverage, benchmarking, and revealing best practices (Esty, 2002).

### **MEASUREMENT TOOLS**

Information is critical to sound decisionmaking. Its collection and presentation, however, are vital to its relevance and impacts. The tracking and aggregation of data are carried out at several levels and with multiple purposes. Some of the most widely employed tools include accounts, indicators, indices, and assessments.

#### **Accounts**

Accounts are selective collections of numerical data, converted to a common unit (money, weight, area, or energy). They can reveal how many people are working, and whether there are more or fewer jobs. They can reveal the number of acres of wetlands in a particular jurisdiction, and whether that number is increasing or decreasing. Monetary and environmental accounting, the predominant approaches to measuring progress, are indispensable, but insufficient tools for measuring sustainable development. Collections of facts rarely allow for communication and consensus building among those who have different values and perceptions.

The most influential accounting system is the System of National Accounts, codified and adopted by the United Nations in 1953 and most recently revised in 1993. The system records asset changes, income, and costs that can be measured and compared in monetary terms. It measures almost everything upon which humans can put a price, but excludes everything that humans usually consider priceless – from parenting and education to forests and air. The most common indicators derived from the System of National Accounts are the Gross Domestic Product (GDP) and the Gross National Product (GNP).<sup>4</sup>

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<sup>4</sup> The Gross Domestic Product (GDP) measures the total added value of enterprises operating in a particular country and the Gross National Product (GNP) measures the total added value of enterprises owned by citizens of a particular country. For example, goods produced by an American-owned firm operating in Japan would be included in the United State's GNP and in Japan's GDP.

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**Both GDP and GNP are inappropriate measures for human and ecosystem wellbeing. They show income, but not income distribution. They do not distinguish between productive and destructive activities, or between sustainable and unsustainable ones. Forest fires, hurricanes, cancer, crime, and disease all add to the GDP because dealing with them requires money to change hands.**

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It is as if a business kept a balance sheet by merely adding up all transactions without distinguishing between income and expenses, or between assets and liabilities. This leads to an overestimate of income and encouragement of economic policies that cannot be sustained. We need a different measure of progress, a clear guide through the jumble of contradictory statistics.<sup>5</sup>

#### **Indicators, Indices, and Assessments**

The primary alternatives to using accounts rely on assessments. Assessments assemble, summarize, organize, interpret, and possibly reconcile pieces of existing knowledge, and communicate them in a simplified manner. They are context-specific and do not attempt to be complete, but rely instead on measuring specific representative aspects, or indicators. Because they can be selective, assessments are better equipped than accounts to cover the wide range of issues necessary for an adequate portrayal of human and environmental conditions.

Indicators represent a particular attribute, characteristic, or property of a system (Gallopín, 1997). They require numerical data and time series to express trends. When a collection of indicators is aggregated mathematically, an index is produced. Indices simplify complex phenomena and make it possible to gauge the general status of a system (IISDnet, 2000a; WEF, 2002).

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<sup>5</sup> While other approaches have been proposed, including the Index of Sustainable Economic Welfare (ISEW) (Daly and Cobb, 1994) and the Genuine Progress Indicator (GPI), the Achilles heel of these and similar approaches is the difficulty of converting data to monetary units. For things that are traded, the market price is used. For things that have marketplace equivalents, oil in underdeveloped reserves for example, the market price is an adequate surrogate. For everything else, contingent values or estimated cost of social and environmental damage must be substituted. This reliance on monetary units as a single measurement obscures the great diversity of methods, data sources, and assumptions that are actually used. Moreover, monetary indicators cannot be forced to measure or explain non-monetary values.

A number of assessment initiatives have been launched in the past few years as alternatives to traditional measurement practices focusing on one or several systems. Among the most effective efforts are the Human Development Report, the Living Planet Index, the Ecological Footprint, the Environmental Sustainability Index, the Compass of Sustainability, the Dashboard of Sustainability, and the Wellbeing Assessment. These indices differ in scope, in the weight given to the environment, and in the basis used for converting indicator measurements to performance scores. Table 1 (pp 42-43) provides a brief overview of several key assessment initiatives.

### **THE VALUE AND PROMISE OF INTEGRATED ASSESSMENTS**

Rio defined sustainability in economic, social, and environmental terms, and postulated the interdependence and indivisibility of these factors. We have learned, often to our chagrin, and usually to our frustration, that gains in economic welfare can often be offset by environmental costs, and that environmental protection can lead to social costs. We need integrated assessment methodologies that will serve as navigational tools, allowing us to define starting points and benchmarks along the way so that we can learn as we go.

Integrated assessments seek to provide relevant information to decisionmakers rather than merely to advance understanding for its own sake. They also bring together a broader set of areas, methods, or degrees of certainty than would typically characterize a study of the same issue within the bounds of a single research discipline (CIESIN, 1995). Integrated assessments separate signal from noise and help make sense of the signals. They meet the need for substantive information and, when developed in a participatory fashion, provide the additional benefits of consensus on broad goals and support for difficult political actions. Integrated assessments enable improved coordination and targeting of resources. They can help decisionmakers understand the linkages between short- and long-term needs and between apparently diverse goals by illuminating both connections and thresholds of impact. In addition, integrated assessments provide mechanisms by which individuals can evaluate the sustainability of their own behavior and hold governmental officials and private corporations accountable.

**THE BELLAGIO PRINCIPLES FOR ASSESSING  
SUSTAINABLE DEVELOPMENT**

In 1996 the International Institute for Sustainable Development convened assessment specialists at the Rockefeller Foundation's Conference Center in Bellagio, Italy to develop principles to guide the assessment of progress toward sustainable development. The Bellagio Principles state that assessments should meet the following ten criteria:

- 1) **Guiding vision and goals:** Assessments should be guided by a clear vision of sustainable development and goals that define that vision.
- 2) **Holistic perspective:** Assessments should include review of the whole system as well as its parts and consider the wellbeing of sub-systems and both positive and negative consequences of human activity in monetary and non-monetary terms.
- 3) **Essential elements:** Assessments should consider equity and disparity within the current population and between present and future generations.
- 4) **Adequate scope:** Assessments should adopt a time horizon long enough to capture both human and ecosystem time scales.
- 5) **Practical focus:** Assessments should be based on an explicit set of categories that link visions and goals to indicators.
- 6) **Openness:** Assessments should have transparent methods and accessible data; they should make explicit all judgments, assumptions, and uncertainties in data and interpretation.
- 7) **Effective communication:** Assessments should be designed to meet the needs of the users and aim for simplicity in structure and language.
- 8) **Broad participation:** Assessments should obtain broad representation of key professional, technical, and social groups, while also ensuring the participation of decisionmakers.
- 9) **Ongoing assessment:** Assessments should develop a capacity to repeat measurement to determine trends and be responsive to change and uncertainty and adjust goals and frameworks as new insights are gained.
- 10) **Institutional capacity:** Continuity of assessing progress should be assured by clearly assigning responsibility and support in the decisionmaking process, providing institutional capacity for data collection, and supporting development of local assessment capacity.

Source: IISDnet (2000b), <http://iisd1.iisd.ca/measure/bellagio1.htm>

Table 1 Leading Assessment Initiatives

Method	Institution	Categories of measurements	Description
<b>Human Development Report</b>	United Nations Development Programme  <a href="http://www.undp.org/hdr2000/english/HDR2000.html">http://www.undp.org/hdr2000/english/HDR2000.html</a>	<i>People</i> · Life expectancy at birth · Education (school enrollment and adult literacy rate) · GDP per capita	Includes four separate indices: · Human Development Index (categories of measurements refer to this index only) · Gender-related Development Index · Gender Empowerment Measure · Human Poverty Index (separate indices for developed and developing countries)
<b>Environmental Sustainability Index</b>	World Economic Forum (Yale Center for Environmental Law and Policy, Yale University and Center for International Earth Science Information Network, Columbia University) <a href="http://www.ciesin.org/indicators/ESI/downloads.html#report">http://www.ciesin.org/indicators/ESI/downloads.html#report</a>	<i>Environment</i> · Environmental systems · Reducing environmental stresses · Reducing human vulnerability · Social and institutional capacity · Global stewardship	Includes twenty indicators of environmental sustainability classified in five categories. Each indicator includes several variables, for a total of sixty-eight variables.
<b>Living Planet Index</b>	World Wide Fund for Nature  <a href="http://www.panda.org/livingplanet/LPRoo/lpindex.cfm">http://www.panda.org/livingplanet/LPRoo/lpindex.cfm</a>	<i>Environment</i> · Animal species in forests · Animal species in freshwater ecosystems · Animal species in marine ecosystems	Averages three indices, which monitor the changes over time in animal species in three different types of ecosystems.
<b>Ecological Footprint</b>	Redefining Progress  <a href="http://www.panda.org/livingplanet/LPRoo/ecofoot.cfm">http://www.panda.org/livingplanet/LPRoo/ecofoot.cfm</a>	<i>Environment</i> · Area of cropland required to produce crops consumed · Area of grazing land required to produce animal products · Area of forest required to produce wood and paper · Area of sea required · Area of land required · Area of forest required to absorb CO <sub>2</sub> emissions	Estimates a population's consumption of food, materials, or energy, by adding up six estimates of different types of areas required to produce the resources consumed by that population. The Ecological Footprint is measured in "area units."

Method	Institution	Categories of measurements	Description
<b>Compass of Sustainability</b>	AtKisson + Associates  <a href="http://www.iisd.org/cgsdi/compass.htm">http://www.iisd.org/cgsdi/compass.htm</a>	<i>Nature</i>  <i>Economy</i>  <i>Society</i>  <i>Wellbeing of individuals</i>	An instrument panel for each of the four broad categories provides both quantitative and qualitative information about progress toward sustainability. In each of the four categories, there is a minimum of three indices (stocks, flows and responses) and ten indicators. The four categories are summed into a Sustainable Development Index
<b>Dashboard of Sustainability</b>	Consultative Group on Sustainable Development Indicators  <a href="http://iisd.ca/cgsdi/dashboard.htm">http://iisd.ca/cgsdi/dashboard.htm</a>	<i>Environment</i>  <i>Economy</i>  <i>Society</i>  <i>Institutions</i>	Graphic combination of indicators of three or four categories (the first three plus or minus Institutions) into a Policy Performance Index
<b>Wellbeing Assessment/Barometer of Sustainability</b>	PADATA (Robert Prescott-Allen), World Conservation Union (IUCN), International Development Research Centre (IDRC)  <a href="http://www.iucn.org/info_and_news/press/wonback.doc">www.iucn.org/info_and_news/press/wonback.doc</a>	<i>Ecosystem</i>  <i>People</i>  Combines the indicators into:  · Human Wellbeing Index · Ecosystem Wellbeing Index · Wellbeing Index · Wellbeing/Stress Index	The Barometer of Sustainability is the only performance scale designed to measure human and ecosystem wellbeing together without submerging one in the other. Its two axes enable socio-economic and environmental indicators to be combined independently, keeping them separate to allow analysis of people-ecosystem interactions.

### CASE STUDY: WELLBEING ASSESSMENT

Wellbeing Assessment (Prescott-Allen, 2001) is an integrated assessment methodology that can be used in both public and private sectors and from local to global levels. The basic hypothesis of Wellbeing Assessment is that sustainable development results from effective pursuit of human wellbeing *and* ecosystem wellbeing, and that the interaction between the subsystems can be measured and indexed.

Wellbeing Assessment defines human wellbeing as “a condition in which all members of society are able to determine and meet their needs and have a large range of choices to fulfill their potential” and ecosystem wellbeing as “a condition in which the ecosystem maintains its diversity and quality (and thus its capacity to support people and the rest of life) and its potential to adapt to change and provide a wide range of choices and opportunities for the future” (Prescott-Allen, 2001).

#### Measurements

Wellbeing Assessment measures the wellbeing of people and ecosystems separately, yet considers them jointly by organizing the information into two subsystems with five components each:

People	Ecosystem
<ul style="list-style-type: none"> <li>• Health and Population</li> <li>• Wealth</li> <li>• Knowledge and Culture</li> <li>• Community</li> <li>• Equity</li> </ul>	<ul style="list-style-type: none"> <li>• Land</li> <li>• Water</li> <li>• Air</li> <li>• Species and Genes</li> <li>• Resource Use</li> </ul>

Wellbeing Assessment identifies features of each dimension and organizes them into a hierarchy of progressively more specific and measurable parts. Indicators are chosen on the basis of representativeness, reliability, and feasibility. This procedure establishes a logical link between the subsystems and indicators, draws attention to elements that cannot be measured or on which there are no data, and leads to comprehensive consideration of human and ecosystem wellbeing.

### Methodology

Indicators are combined using the Barometer of Sustainability, a performance scale with two axes, one for human wellbeing, the other for ecosystem wellbeing. Performance criteria – good, fair, medium, poor, and bad levels of performance – are defined for each indicator, enabling indicator measurements to be converted to scores and displayed on the axes.

Scores can be combined into higher level indices and ultimately into a Human Wellbeing Index, an Ecosystem Wellbeing Index, a Wellbeing Index, and a Wellbeing/Stress Index.<sup>6</sup> Because of the ability to include a large number of indicators, scores in Wellbeing Assessment are robust, and present a comprehensive picture less affected by a lack of data or by inaccurate data on individual indicators. Although underlying weights given to various variables and other assumptions can be debated, the indices provide clear, rapidly communicated pictures of a society's human and ecosystem wellbeing, how close a society is to its goal of sustainability and how it compares with other societies, the rate and direction of change, and major strengths and weaknesses of the human and natural systems of the entity being assessed.

### THE ASSESSMENT CHALLENGE

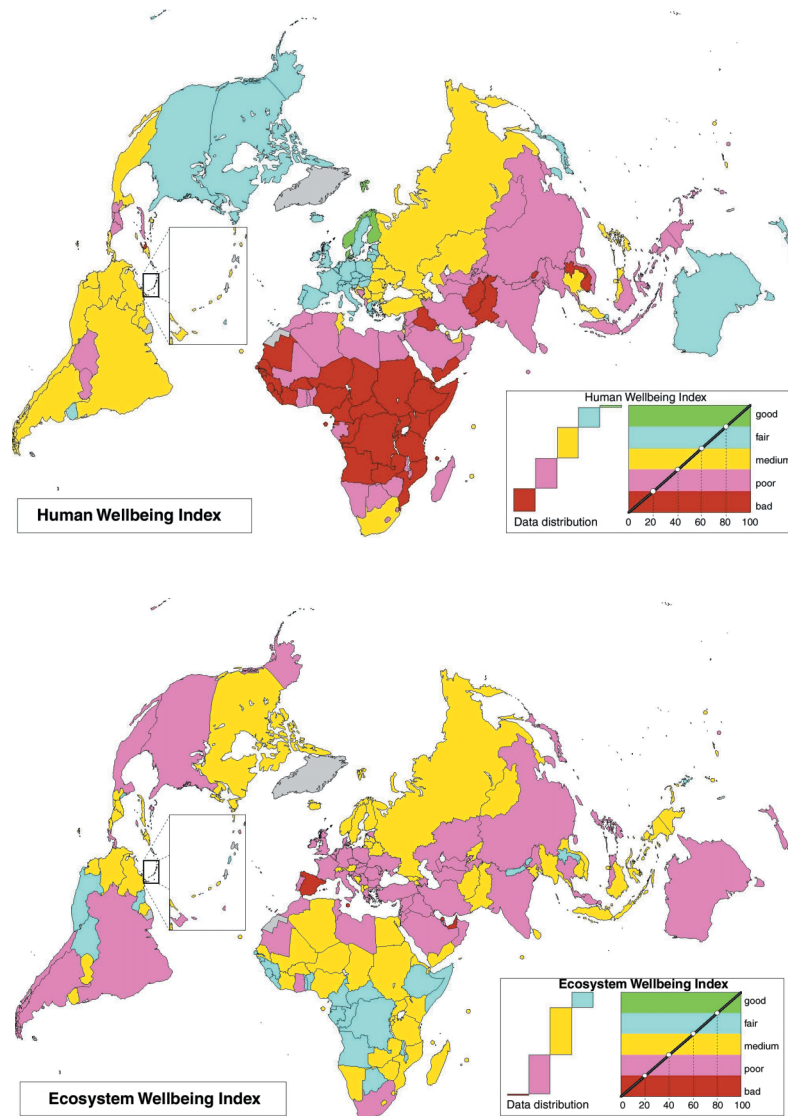
More information and data do not necessarily mean greater knowledge or efficiency. A flood of unconnected and often apparently contradictory facts can swamp the flow of useful information for decisionmaking. Assessing progress thus presents both a governance and a methodological challenge.

From a governance perspective, authority and responsibility for data collection, analysis, and assessment are scattered, the process is dominated by special interests, and long-range planning and strategic decisionmaking are undermined. At every level, the capacity to collect and report data is fragmented and narrowly focused. When data are collected, they are assembled for specific and immediate purposes and then forgotten or poorly stored, usually separated from the assumptions, values, and purposes used in their collection. Differences in collection methodologies are often obscured over time, and incompatible data are combined in ways that, at best, dilute meaning.

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<sup>6</sup> Figure 1 shows a graphic representation of the Human Wellbeing Index and the Ecosystem Wellbeing Index.

Figure 1 Human and Ecosystem Wellbeing Indices



Source: Prescott-Allen, Robert. 2001. *The Wellbeing of Nations: A Country-by-Country Index of Quality of Life and the Environment*. Washington, D.C.: Island Press.

From a methodological perspective, we must learn how to define sustainability in terms of indicators that can be tracked and monitored, understood and applied by decisionmakers, and that allow us to efficiently manage our investments of time, money, labor, and thought. And yet, even if we have such effective indicators, we still run the risk of having an unintelligible hodgepodge of information on our hands.

Numbers, moreover, are not value neutral (Esty, 2002). “Northern” bias must be recognized and addressed.

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**There is a tendency to think of “developed countries” as countries that have achieved sustainability. In fact, nations with a high standard of living irreversibly change their own natural systems, while potentially imposing excessive pressure on the global environment. Successful assessment methodologies will have to make evident and understandable the linkages between consumption, deployment of advanced technology, and resource impact, both local and global.**

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Assessments must also function adequately at various scales, from local to global, and must lend themselves to aggregation and disaggregation without loss of validity and reliability. They must allow for regional and global comparisons while retaining national and local relevance. That means, at a minimum, that the actions of all countries must be assessed on the same basic factors and measures, but that any system adopted at an international level must lend itself to expansion via local participation to reflect additional values, conditions, and aspirations.

Examples of misleading global indicators abound, and pictures painted with broad brushes, as at the beginning of this chapter, can be both too rosy and too dire, often simultaneously. But to successfully address these challenges, we will need to assess progress on multiple fronts and at several levels simultaneously, and make decisions, the consequences of which are anticipated and intended.

### NEXT STEPS: JOHANNESBURG AND BEYOND

After a decade of investment and action, results are difficult to document and almost impossible to interpret. When the nations of the world convene in South Africa in August 2002 for the World Summit on Sustainable Development, it will again be apparent that our worthwhile dreams have exceeded our capacity to manage effectively, in large measure because we have no systematic, valid, and reliable way to evaluate our progress, and no fixed point of responsibility for this task.

The Monterrey Consensus emphasized the international commitment to the goals of the Millennium Declaration, namely, “to eliminate poverty, improve social conditions and raise living standards, and protect our environment.” The achievement of these goals will require an effective and transparent system for mobilizing public resources as well as strong, accountable institutions and measurement of results. The response from Johannesburg must be unequivocal and should include the following elements:

- A set of common *indicators* on which nations can collect and periodically report, allowing national and local governments to tailor or add indicators of particular significance to a local context;
- A common, scientifically sound *methodology* for integrating data sets into assessments of sustainability;
- The establishment of *national obligations to collect and report* social, economic, and environmental data, with sanctions for non-reporting;<sup>7</sup>
- Clear *standards* for periodic assessment of progress toward sustainability;
- The creation of an independent *International Scientific Panel on Sustainability*, similar to the Intergovernmental Panel on Climate Change under the UN Framework Convention on Climate Change, with the authority and responsibility to collect and assemble data, and report fully, objectively, and publicly on progress toward achieving sustainability;

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<sup>7</sup> Nations that do not report in a timely or adequate way could be ineligible for membership in successor bodies to the Commission on Sustainable Development, and have their voting privileges in multilateral environmental agreements suspended, for example.

- *Commitment to fund* these assessments and the activities of the Scientific Panel on Sustainability, such as commitment from donor countries to meet all costs of national reporting from the least developed countries, including capacity building.

## **CONCLUSION**

The essential link between responsibility and accountability is a valid and reliable measurement of change over time. This link was not forged at Rio and has not been addressed since. Despite the flood of data over the past decade, information regarding the performance of governments and society in the pursuit of sustainability has been neither systematically collected nor transparently and objectively reported. We know little more today than we did ten years ago regarding our progress and the overall effectiveness of our actions.

Governments are inherently uneasy about committing to goals and managing for results, although none can deny that both steps are necessary for good governance. If they avoid the issue in Johannesburg as they did in Rio, we need only look at the experience of the last ten years to see the prospects for the next decade: more futile and inconclusive discussions, more sterile political debates over who is not meeting their obligations, and more wasteful investments nationally and internationally. We will continue to “fly blind.”

There are no other binding commitments (“Type I Outcomes”) remotely achievable for the World Summit on Sustainable Development that could be more valuable than a commitment to creating the means to authoritatively assess progress toward sustainable development.

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