

The Oregon Benchmarks As a Measurement System for Sustainability

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Abstract

The purpose of this exercise is to determine the strengths and weaknesses of the Oregon Benchmarks (and the recently released *Oregon State of the Environment Report* (SOER) recommendations) as useful indicators for determining Oregon's level of "sustainability." This concept paper evaluates options for developing sustainability indicators in accordance with the Governor's Sustainable Oregon Executive Order No. EO-00-07. It, specifically, compares the Oregon Benchmarks the *SOER* against a set of widely accepted set of sustainability guidelines called the Bellagio Principles.

The Bellagio Principles articulate five possible frameworks and ten fundamental principles as a basis of comparison. The report finds that Oregon current sustainability typology (three domains consisting of economic, social and environmental) is the same as one of the frameworks described in Bellagio. The report recommends continuing with this three-domain framework.

The report examines the Oregon Benchmarks and (SOER) against each of the ten Bellagio Principles. Generally, Oregon's indicators compare favorably with the ten principles. Areas where improvements could be made include: 1) developing a better vision and statement of goals for sustainability; 2) creating indicators for inter-generational equity; 3) creating indicators that demonstrate the inter-play between the three domains; 4) creating indicators that demonstrate high level "stocks and flows" and 5) creating indicators that show true costs of environmentally harmful activities.

Five options for action are included. They are: 1) begin the next *Oregon Shines* update early using sustainability as an organizing principle; 2) inventory all current benchmarks, assessing gaps and inconsistencies with the Bellagio Principles; 3) include a sidebar on sustainability in the Benchmarks 2001 report to the Legislature; 4) field a survey to assess awareness and understanding of sustainable development in Oregon; and 5) explicitly identify inter-domain relationships when developing benchmark 2005 and 2010 targets.

Introduction

Governor Kitzhaber, in a recent executive order, asked the Oregon Progress Board to assess the Oregon Benchmarks' viability as indicators of sustainability. Sustainability is defined in the executive order as "using, developing, and protecting resources at a rate and in a manner that enables people to meet their current needs and also provides that future generations can meet their own needs. Sustainability requires simultaneously meeting environmental, economic, and community needs."

A literature review reveals many different frameworks and principles that could be used to assess the Oregon Benchmarks and *SOER*. The Bellagio Principles were chosen as the standard by which to judge for three reasons. They are comprehensive. They are widely accepted. And they are easy to understand. The Bellagio Principles were developed by leading measurement practitioners in 1996 as a follow-up to the World Commission on Environment and Development (Brundtland Commission) in 1987 and Agenda 21 of the 1992 Earth Summit.

Bellagio Principles and Assessment Frameworks

The Bellagio Principles view progress toward achieving sustainability as maintaining, and preferably improving, human and ecosystem well-being simultaneously, establishing a positive feedback system. Further, the principles frame sustainable development as an ongoing process rather than a “fixed state of harmony” and describe it in social choice terms. A challenge for sustainable development assessment is to develop measures that are tied to standards while recognizing the fluid nature of the desired state of “sustainability.”

A wide variety of assessment frameworks are being tested and refined. (See Appendix A for selected sustainability resources.) Frameworks generally follow a hierarchical organization - from broad categories of data and information to detailed indicators. While many models are not mutually exclusive, the Bellagio Principles identify five general types: 1) economic models; 2) pressure-state-response models; 3) capital or accounting models; 4) domain or three-dimensional environmental, economic, and social models; and 5) the linked human-ecosystem well-being models. The first two types are considered partial system models. The latter three are full systems that capture all aspects of human-environment relations.

Overview of Assessment Frameworks

Framework 1) Economic Models –

Economic models expand on traditional growth measurements, such as the Gross Domestic Product (GDP), and market transactions, such as prices, to capture the cost of externalities, including environmental pollution, over-harvest of natural resources, and sustainable practices. An example is the System of Integrated Environmental and Economic Accounting (SEEA). This is a partial system model, concentrating on the links between the economy and the environment. Economic models can be used as the building blocks of full system models.

Framework 2) Pressure-State-Response Models -

SOER utilizes the dynamic Pressure-State-Response (P-S-R) model but has not, yet, addressed possible policy and management responses to environmental pressures and states. Examples of pressures include emissions or the use of natural resources, such as forests or fisheries. Pressures are “lead indicators” and act as an early warning system. Pressures affect states or conditions. Many of the environmental health indicators selected in the *SOER* capture the effects of pressures and can be considered “lag indicators.” Lag indicators appear late in the cause-and-effect chain. Policy responses and monitoring can result in readjustments needed to reduce pressures on the environment and thus improve environmental performance.

Strengths of this approach are its ability to identify and assess baseline conditions, to elucidate cause-and-effect relations, and its potential connection to performance management through the benchmarks. A possible weakness is that the model can tempt policy analysts and decision makers to oversimplify complex and ambiguous cause-and-effect relationships. On the other hand, a guiding precept in sustainable development, expressed in the “precautionary principle,” is that reasonable scientific uncertainty does not justify policy inaction.

Framework 3) Accounting Models -

Accounting models build on traditional economic measures, in three ways: 1) production is extended to include the use of environmental resources and the use of all paid and non-paid

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labor; 2) asset measurement is enlarged to include environmental assets and human and social capital; and 3) measurement of consumption is broadened to ensure the maintenance of adequate levels of capital for future generations.

Partial and full system variations of this approach abound and are being developed rapidly. Examples of asset measurement and composite indices (see Appendix B) include Genuine Savings, Ecological Footprints, The Natural Step (TNS) for private firms, and the Genuine Progress Index (GPI).

A principal strength of the accounting approach is its ability to combine breadth of coverage of different issues within a single coherent structure, thus ensuring consistency. Some other advantages include linkage between environmental, economic, and social issues, and measures can be easily aggregated and disaggregated.

Weaknesses include theoretical and practical difficulties in non-market, environmental valuation as well as measures and data for human and social capital. This approach can tie into both the benchmarks and the *SOER*. The benchmarks capture certain human and social capital measures, for example, and *SOER* includes actual and conceptual measures of natural resource utilization rates, environmental impacts, and pollution.

Framework 4) Three-Dimensional Environmental, Economic and Social Models -

The three-dimensional model organizes indicators according to each of the dimensions of sustainability and across domains to emphasize integration of ecological, economic, and social issues. Further, it allows information to be grouped hierarchically. As with most of the other models, a weighting system could be used as well. Indicator pairing would be: environment-economy; environment-society, economy-society. Some indicators could even span all three domains.

While *Oregon Shines* is organized along these three dimensions, neither the Oregon Benchmarks nor the *SOER* explicitly and fully addresses linkages. With some difficulty this could be probably done.

Strengths of this approach are its consistency with the Governor's Sustainable Oregon Executive Order, and its centrality to virtually all sustainable development frameworks. Also, it is easily integrated into other more sophisticated and analytically rigorous approaches.

By itself, the approach may be limited as an assessment and problem-solving tool. Development of true issue tradeoffs could lead to politicization.

Framework 5) Linked Human-Ecosystem Well-Being Models -

The nexus of sustainability lies in the interdependency of human and ecological well-being. Economic systems are nested within social systems, which are nested within ecosystems. Gains pitted against losses in one area or across areas are considered unsustainable over the long-term. It assumes that the pursuit of integrated public policies in concert with individual and institutional understanding and action will lead to improved environmental, economic, and social full-system performance. This framework subsumes all others.

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The *SOER* attempts to show these nested relationships, but does not flesh them out. Neither *Oregon Shines* nor the Oregon Benchmarks operate under this construct.

The strength of the model is its universality. It encompassed everything, by definition. One of the weaknesses is its attempt to juxtapose two different sets of time horizons. (Ecosystem changes often occur over much longer time scales, for instance.) Also, some would object to defining humans as something other than part of the ecosystem.

Bellagio Principles

The ten Bellagio Principles are articulated as all-encompassing guidelines for the entire sustainability assessment process, including the choice and design of indicators, their interpretation, and the communication of the result. Assessment systems and their indicators must:

1. be guided by a clear vision of sustainability and clear goals;
2. be holistic in nature;
3. include equity, ecological conditions and economic/non-market activities;
4. be broad in scope;
5. be practical;
6. be transparent to public scrutiny;
7. be engaging enough to elicit stakeholder interest;
8. involve a broad cross section of residents;
9. be periodically reviewed and adjusted; and
10. be integrated into decision-making frameworks.

(See Appendix C - *Description of the Bellagio Principles* for more details.)

Comparing the Benchmarks and *SOER* Against the Ten Bellagio Principles

Principle 1: Guiding Vision and Goals

The principle states that assessment of progress toward sustainability should be guided by a clear vision of sustainability and goals that define that vision. Reference points are also needed to gauge changes in trends. *Oregon Shines II* articulates a twenty-year vision for Oregon, as well as goals which are basically consistent with the three dimensions of sustainability. The western governors' Enlibra Principles also provide a possible starting point. The vision describes a desired future with linkages between its citizens, institutions and the surrounding environment. The benchmarks also monitor progress toward achieving this vision and related goals. This is consistent with basic notions of sustainability and principle 1 of the Bellagio Principles. Sustainability indicator criteria, however, go beyond vision, goals, and performance management and differ from traditional indicator selection criteria insofar as they are linking, inter-generational, encompass an ecosystem time scale (decades to centuries), and measure stocks and flows of capital assets and liabilities. Currently, *Oregon Shines II* and the benchmarks capture all of these features to varying degrees, with the exception of an ecosystem time scale. *SOER* indicators, however, do represent ecosystem time frames. (N.B. the executive order directs a goal of sustainability for Oregon within one generation.)

Principle 2: Holistic Perspective

A system tracking progress toward sustainability should adopt a holistic perspective by considering whole systems, ecological, economic and social sub-systems, their state and changes

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in the state, and their linkages. Positive and negative consequences of human activity that reflect monetary and non-monetary costs and benefits should be incorporated.

Both the benchmarks and *SOER* conform to these guidelines, with the exception of linking sub-systems. The benchmarks provide some issue analysis, but explicit examination of ecological, economic, and social well-being interdependencies may be warranted, which would require adoption of additional measures. *SOER* does assess states and trends from a system perspective, but the indicators themselves are largely limited to ecosystem health. Neither the benchmarks nor *SOER* attempt to value the full range of environmental, social, and economic costs using economic and/or capital models.

Principle 3: Essential Elements

Assessment of progress toward sustainability should consider equity and disparity within and across generations, dealing with issues such as resource use, over-consumption, ecosystem health, poverty, and access to services. Other assessment elements include economic development and other, non-market activities affecting social well-being.

The benchmarks and *SOER*, together, satisfy most of these assessment elements. Further development of indicators covering social equity and over-consumption may be warranted.

Principle 4: Adequate Scope

Principle 4 specifies adequate scope for sustainability assessment as spanning both human and ecosystem time scales to ensure that the needs of future generations are addressed while satisfying short-term demands. The assessment scope should consider long distance impacts on people and ecosystems. Historic and current conditions should guide desired, and practicable, future conditions.

The benchmarks do not measure ecosystem time scales. Nor do the benchmarks put forth a well-developed strategy for bridging the needs of current and future generations in the present. While some issue areas and benchmarks are at community and regional scales, greater exploration of impact tradeoffs within and beyond Oregon may better enable the current benchmarks to capture these linkages. An example would be sustainability trends among and between urban, suburban, and rural localities. *SOER* does organize the state according to eco-regions. Trends and interactions are assessed from growth, utilization, and conservation perspectives, but social and economic connections have not been fully pieced together.

Principle 5: Practical Focus

The benchmarks have a practical focus, including an organizing framework that links vision and goals to measures and assessment criteria. The Oregon Progress Board also has a self-imposed limitation of 100 benchmarks and 25 key indicators. One challenge in sustainability reporting is to establish a common metric to facilitate comparison. Monetary and physical measures are most common. The benchmarks also satisfy Bellagio Principle 5 by their use of reference values, such as targets and direction of trends. Some, though not all, of the 25 key benchmarks could be considered sustainability indicators.

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Principle 6: Openness

Assessment of progress toward sustainability should be an open process and make the methods and data that are used accessible to all and make explicit all judgments, assumptions, and uncertainties in data and interpretations. This is particularly the case since sustainable development is value-based and interdisciplinary, in part, due to inherent limitations in knowledge and the multi-dimensionality and complexity of linking issues. Both the benchmarks and *SOER* are consistent with this guideline.

Principle 7: Effective Communication

Effective communication meets the needs of end users, draws from other indicators and tools that are compelling and inspire interest, and shows simplicity in structure and the use of clear and plain language. While the benchmarks themselves are accessible to elected officials, public agency practitioners, and lay audiences alike, the concepts, practice, and language of sustainability is still emergent and likely not well understood across broad sectors of Oregon society.

Principle 8: Broad Participation

Indicator end users and participants may be considered decision-makers and staff in government agencies, private industry, non-governmental organizations, and Oregon citizens. The benchmarks well reflect this assessment criterion as do the many current multi-stakeholder collaborative processes in Oregon. Linked “bottom-up, top-down” participation strategies increase the likelihood of understanding and action by decision makers and other stakeholders alike, capturing the convergence of broad input and ownership and technical information.

Principle 9: Ongoing Assessment

Assessment of progress toward sustainability should be ongoing, collaborative, and adaptive. Assessments should not only be iterative but also sufficiently adaptive to respond to change and uncertainty because systems are complex and change frequently. Goals, frameworks, and indicators should be adjusted as new insights are gained. Finally, collective learning and feedback to decision making should be promoted. The benchmarks generally satisfy this principle through periodic reviews with broad expert and citizen involvement and by tracking the updated strategic plan, *Oregon Shines II*. Similarly, *SOER* can be updated regularly.

Principle 10: Institutional Capacity

Continuity of assessing progress toward sustainability should be secured by clearly assigning responsibility and providing ongoing support in decision making. It also involves providing institutional capacity for data collection, maintenance, and documentation. Support for development of community and regional assessment capacity is also part of this guideline. The Oregon Progress Board has this institutional capacity by virtue of its performance management charge, reflected by developing the state strategic plan, the benchmarks, and commissioning of the *SOER*.

Recommendations

Many of the sustainability assessment elements outlined in the Bellagio Principles are contained in *Oregon Shines II*, the benchmarks, and *SOER*. Reworking of some aspects may be warranted, however, to more fully frame and carry out sustainability assessment in Oregon and to further

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develop institutional capacity. Here are our recommendations for options to consider. (The options are not mutually exclusive.)

Option 1) Reframe the upcoming *Oregon Shines III* update with sustainability as its theme. Bellagio Principle (BP) #1 clearly states that measures must be linked to an overarching vision. Revised benchmarks would follow.

Option 2) Inventory all current benchmarks, and assessing gaps and inconsistencies with the Bellagio Principles (BP# 2-5). The most prominent gaps include intra-generational and inter-generational equity linkages, cross-domain linkages, measurements of capital stocks and flows and accounting for externalities. After a careful identification of gaps, the Board would develop a supplemental list of benchmarks that could be issued next summer.

Option 3) Include a sidebar on sustainability in the Board's 2001 report to the Legislature on how well current benchmarks measure up as sustainability indicators. This would satisfy any perceived need for immediate action.

Option 4) Develop and implement a social survey research project to assess awareness and understanding of sustainable development in Oregon on the part of various stakeholder groups, including the public at-large. Such a survey would satisfy the principle of assuring broad participation. This could be done as part of a revised Oregon Values and Beliefs Survey.

Option 5) Put much more emphasis on getting the targets right. Every 2005 or 2010 Oregon Benchmark target implicitly states many assumptions about sustainability issues. The upcoming Phase II of *SOER* will include a citizen-based target setting exercise. The could be transformed into an opportunity to make explicit the trade-offs embodied in different target levels and to clearly articulate how and why the three domains of sustainability are linked to each other.

Appendix A
Sustainable Development Indicator Reports:
Selected Bibliography and Web Sites
(Developed by Kristin Dahl, Oregon Economic and Community Development Department)

Selected Bibliography

Brown, Donald A. (prepared by). *The Role of States in Sustainable Development Programs in the United States*. Presented at a National Town Meeting in Detroit, MI: May 4, 1999.

Hart, Maureen. *Guide to Sustainable Community Indicators*. 2nd ed. Hart Environmental Data, 1999.

International Council for Local Environmental Initiatives. *The Local Agenda 21 Planning Guide*. 1996

International Institute for Sustainable Development. *Assessing Sustainable Development: Principles in Practice*. Winnipeg, Manitoba, Canada. 1997

Pacific Northwest Regional Council of the President's Council on Sustainable Development. *Inventory and Monitoring for Sustainable Development in the Pacific Northwest: Challenges and Solutions*. June 1999.

*To request copies contact the Defenders of Wildlife in Lake Oswego at (503) 697-3222 or kstirling@defenders.org

Sustainable Seattle. *Indicators of Sustainable Community*. Seattle, WA, 1998.

U.S. Interagency Working Group on Sustainable Development Indicators. *Sustainable Development in the United States*. Washington DC. December 1998.

Wackernagel, Mathis & William Rees. *Our Ecological Footprint: Reducing Human Impact on the Earth*. Gabriola Island, BC: New Society Publishers, 1996.

Selected Web Sites

Indicator Listings -

Compendium of Sustainable Development Indicator Initiatives

The site on the Compendium of SD Indicator Initiatives and Publications provides an overview of initiatives on sustainable development indicators being carried out at the international, national and provincial/territorial/state levels.

<http://iisd1.iisd.ca/measure/compindex.asp>

Hart Environmental Data: Indicators of Sustainability – North Andover, MA (978) 975-1988

Hart Environmental Data develops indicators that measure progress toward a sustainable economy, society, and environment.

<http://www.subjectmatters.com/indicators/sustainability/index.html>

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Interagency Working Group on Sustainable Development Indicators

This site contains contact information on where to get a copy of the report *Sustainable Development in the United States: An Experimental Set of Indicators*.

<http://www.sdi.gov/>

State/Provincial -

British Columbia, Canada: Green Economy Initiative

The 1999 initiative is designed to help communities in B.C. become both environmentally and economically sustainable.

<http://www.gov.bc.ca/ges/>

Florida: Governor's Council for Sustainable Florida

The Council, a private, non-profit organization established by the Florida State Legislature in 1990, provides a non-partisan forum for diverse perspectives about the advantages and opportunities to be gained through adopting a sustainable development philosophy for Florida.

<http://sustainable.state.fl.us/fdi/fsc/gcsf/gcsfmain.htm>

Minnesota: Minnesota Planning - Sustainable Development Initiative

The Minnesota Sustainable Development Initiative is a collaboration of business, government and civic interests to promote policies, institutions and actions that ensure Minnesota's long-term environmental, economic and social well-being.

<http://www.mnplan.state.mn.us/SDI/index.html>

North Carolina: North Carolina's Project Green

The state agencies of North Carolina took Governor Hunt's environmental stewardship challenge in 1998 to heart and have since then implemented measures to reduce the negative impacts that their operations have on the environment.

<http://www.sustainablenc.org/>

2000 Sustainability Reports from State Agencies

<http://www.p2pays.org/ref/07/06568.htm/intro.htm>

Pennsylvania: Governor's Green Government Council of Pennsylvania

A council established to assist Commonwealth agencies to implement strategic environmental management practices which support sustainable development and move towards the Commonwealth's goal of zero-emissions.

<http://www.gggc.state.pa.us/>

City -

Seattle, Washington: Sustainable Seattle

Seattle's citizens developing resources and tools to monitor progress as they work towards sustainability.

<http://www.scn.org/sustainable/>

San Francisco, California: Sustainable City

A look at what San Francisco is currently working on.

<http://www.sustainable-sf.org/>

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Santa Monica, California: Sustainable City Program

See how this California community is creating the basis for a more sustainable way of life from a program started in September of 1994.

<http://www.ci.santa-monica.ca.us/environment/>

Racine, Wisconsin: Sustainable Racine

This is a vision about meeting the needs of today as it involves neighborhoods, schools, businesses, young people while taking the needs of future generation into account.

<http://www.sustainable-racine.com/>

Austin, Texas: Sustainable Communities Initiative

SCI exists to help the greater Austin region achieve economic prosperity, social justice, and ecological health - the highest possible quality of life in the best possible environment.

<http://www.ci.austin.tx.us/sustainable/>

Evansville, Indiana: Sustainable Evansville

Learn about the goals set by this community to promote environmentally sustainable economic development and about the Eco-House resource efficiency project.

<http://www.sustainableevansville.org/>

National & International Sustainability Organizations -

Center of Excellence for Sustainable Planning

A project of the U.S. Department of Energy, this website is a comprehensive guide to sustainability providing pertinent success stories, strategies, educational materials, open forums, and articles/ publications targeting every major facet of sustainable development.

<http://www.sustainable.doe.gov/>

The International Council for Local Environmental Initiatives

ICLEI is an association of local governments dedicated to the prevention and solution of local, regional, and global environmental problems through local action. Over 300 cities, towns, counties, and their associations from around the world are Members of the Council.

<http://www.iclei.org/>

International Institute for Sustainable Development

IISD advances policy recommendations on international trade and investment, economic instruments, climate change, measurement and indicators, and natural resource management.

<http://iisd1.iisd.ca/>

Sustainable Development Dimensions

An on-line service sponsored by the Sustainable Development Department and the Food and Agriculture Organization of the United Nations.

http://www.fao.org/WAICENT/FAOINFO/SUSTDEV/Welcome_.HTM_

Appendix B

Selected Sustainability Indices

- 1) Human Development Index (HDI) - Developed by the United Nations Development Programme. This composite index is an aggregation of life expectancy, adult literacy, and GNP measures.
- 2) Ecological Footprint - Developed by Wackernagal and Rees. Natural resource consumption and environmental impact consumption measure. This indicator estimates the amount of space on earth that an individual uses in order to meet basic needs based on current technology. This area includes biologically productive land and water as well as waste assimilation. The amount of productive land consumed per person in North America doubled between 1900 and 1950 and again between 1950 and 1995.
- 3) Genuine Progress Index (GPI) - Developed by Redefining Progress and similar to Genuine Savings Index.
- 4) Genuine Savings Index - Developed by the World Bank. This is a net calculation of real savings. Starting with the GDP, the index calculates resource depletion, environmental pollution, and measures of human capital and social capital.
- 5) Headline Indicators for Social Investment/Investment in Public Assets Index - Developed by the Department of Environment, Transport, and the Regions (DETR), United Kingdom. Categories aggregated over time include health care, social services, education, sewage and waste disposal, drinking water, public transportation, roads, rail transport.

Appendix C **Description of Bellagio Principles**

(Taken from *Assessing Sustainable Development: Principles in Practice*,
International Institute for Sustainable Development, 1997)

1. GUIDING VISION AND GOALS

Assessment of progress toward sustainable development should:

- be guided by a clear vision of sustainable development and goals that define that vision

2. HOLISTIC PERSPECTIVE

Assessment of progress toward sustainable development should:

- include review of the whole system as well as its parts
- consider the well-being of social, ecological, and economic sub-systems, their state as well as the direction and rate of change of that state, of their component parts, and the interaction between parts
- consider both positive and negative consequences of human activity, in a way that reflects the costs and benefits for human and ecological systems, in monetary and non-monetary terms

3. ESSENTIAL ELEMENTS

Assessment of progress toward sustainable development should:

- consider equity and disparity within the current population and between present and future generations, dealing with such concerns as resource use, over-consumption and poverty, human rights, and access to services, as appropriate
- consider the ecological conditions on which life depends
- consider economic development and other, non-market activities that contribute to human/social well-being

4. ADEQUATE SCOPE

Assessment of progress toward sustainable development should:

- adopt a time horizon long enough to capture both human and ecosystem time scales thus responding to needs of future generations, as well as those current to short term decision-making
- define the space of study large enough to include not only local but also long distance impacts on people and ecosystems
- build on historic and current conditions to anticipate future conditions - where we want to go, where we could go

5. PRACTICAL FOCUS

Assessment of progress toward sustainable development should be based on:

- an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria
- a limited number of key issues for analysis
- a limited number of indicators or indicator combinations to provide a clearer signal of progress
- standardizing measurement wherever possible to permit comparison
- comparing indicator values to targets, reference values, ranges, thresholds, or direction of trends, as appropriate

6. OPENNESS

Assessment of progress toward sustainable development should:

- make the methods and data that are used accessible to all
- make explicit all judgments, assumptions, and uncertainties in data and interpretations

7. EFFECTIVE COMMUNICATION

Assessment of progress toward sustainable development should:

- be designed to address the needs of the audience and set of users
- draw from indicators and other tools that are stimulating and serve to engage decision-makers
- aim, from the outset, for simplicity in structure and use of clear and plain language

8. BROAD PARTICIPATION

Assessment of progress toward sustainable development should:

- obtain broad representation of key grass-roots, professional, technical and social groups, including youth, women, and indigenous people - to ensure recognition of diverse and changing values
- ensure the participation of decision-makers to secure a firm link to adopted policies and resulting action

9. ONGOING ASSESSMENT

Assessment of progress toward sustainable development should:

- develop a capacity for repeated measurement to determine trends
- be iterative, adaptive, and responsive to change and uncertainty because systems are complex and change frequently
- adjust goals, frameworks, and indicators as new insights are gained
- promote development of collective learning and feedback to decision-making

10. INSTITUTIONAL CAPACITY

Continuity of assessing progress toward sustainable development should be assured by:

- clearly assigning responsibility and providing ongoing support in the decision-making process
- providing institutional capacity for data collection, maintenance, and documentation
- supporting development of local assessment capacity

-End-