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Overview of Sustainable  
Development Indicators  
used by National  
and International Agencies

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**OVERVIEW OF SUSTAINABLE DEVELOPMENT INDICATORS USED BY NATIONAL AND INTERNATIONAL AGENCIES**

**OECD STATISTICS WORKING PAPER 2002/2**

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## **OVERVIEW OF SUSTAINABLE DEVELOPMENT INDICATORS USED BY NATIONAL AND INTERNATIONAL AGENCIES**

This paper presents a general overview of recent work on sustainable development indicators in OECD countries. It provides an overview of on-going work for developing “agreed” indicators that measure progress across the three dimensions of sustainable development (economic, social and environmental). The paper then takes a more specific look at the approaches to sustainable development indicators adopted by different countries and highlights the challenges of having one set of standard international indicators across the various countries.

Ce document présente un panorama général des récents travaux effectués sur le développement durable dans les pays de l'OCDE. Il fournit l'état des lieux du développement des indicateurs définis en commun par les pays, indicateurs qui mesurent le progrès à travers les trois dimensions du développement durable (économique, sociale et environnementale). Ce document s'attache ensuite plus spécifiquement aux approches des indicateurs du développement durable adoptés par différents pays et met en avant les défis de la standardisation des indicateurs internationaux à travers les différents pays.

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## 1. INTRODUCTION

1. Several OECD countries are currently developing indicators for measuring progress towards sustainable development. Much of the impetus behind these efforts is a consequence of the 1992 World Summit on the Environment and Development, where a specific agency (the United Nation's Commission on Sustainable Development, UNCSD) was established to monitor countries' efforts in developing and using sustainable development indicators. Since then, a number of countries as well as Eurostat (European Commission 2001a), have been involved in the testing of the indicators and corresponding methodologies proposed by the UNCSD. Other countries have started their own work on sustainable development indicators outside the UNCSD framework, most often to assess progress towards goals set in the context of national plans or strategies for sustainable development.

2. A renewed impulse to develop sustainable development indicators is being provided by the forthcoming World Summit on Sustainable Development in Johannesburg in September 2002. Several countries aim to have sustainable development strategies and corresponding indicators in place by the time of the Summit. Generally speaking, interest and activity related to sustainable development indicators have increased substantially over the past few years in all OECD countries.

3. This paper, prepared by Julie L. Hass, Frode Brunvoll and Henning Høie from Statistics Norway, presents a general overview of recent work on sustainable development indicators in OECD countries. This overview is provided to inform the OECD regarding on-going work for "developing *agreed* indicators that measure progress across all three dimensions of sustainable development", as mandated by OECD Ministers in 2001. Past OECD work on sustainable development indicators is not being considered in the context of this review. Examples of recent OECD contributions to this area include the proceedings of the OECD conference *Towards Sustainable Development – Indicators to Measure Progress*, held in Rome in December 1999 (OECD 2000), and chapter 3, "Measurement", of the OECD report *Sustainable Development – Critical Issues* (OECD 2001c).

## 2. BOUNDARIES FOR THIS REVIEW

4. Delving into the published documentation and Internet resources on sustainable development indicators quickly results in overwhelming amounts of information. Providing a structure to organise this information requires that clear boundaries be established, defining what will be included and excluded in this review.

5. This review includes national sets of indicators covering the three pillars of sustainability (economic, social and environmental), and that are presented as sustainable development indicators by the agencies developing them. The focus of this review is primarily on OECD countries. These boundaries imply the exclusion of indicator sets for smaller geographic units — such as the local or regional units that are considered by Agenda 21 indicator sets (one exception is the Local “Quality of Life Counts” set of indicators developed in the United Kingdom) — as well as the indicators for supra-national entities — with the exception of the inclusion of the regional indicator set for the Mediterranean countries<sup>1</sup> (the so called “Blue Plan Indicators”), and the set of structural indicators developed by the European Union.

6. Furthermore, this review does not aim to dispel the controversies that surround the notion of sustainable development, nor does it focus on the definitional problems regarding indicators (see e.g. Gallopín 1997). More simply, it aims to take stock of the current state of work on sustainable development indicators in OECD-countries.

7. The restriction imposed by this review which stipulates that indicators should cover all the three pillars, or components, of sustainable development has meant the exclusion of countries that adopt a more thematic approach to sustainability. Countries such as Italy, Japan and Norway, that focus on environmental indicators for specific themes and economic sectors are not shown in the comparison tables presented below. Broadening the boundaries of this review to include the thematic indicator sets that are being developed by countries, would quickly make this review unwieldy.

8. In addition to national work, this review covers the work of the United Nation's Commission on Sustainable Development (UNCSD). UNCSD first published in 1996 a set of sustainable development indicators and corresponding methodology sheets. This set was subsequently tested by 22 “official” test countries and by a number of other countries outside the official test-group. Based on these tests, the original set of indicators and methodologies were revised: the number of indicators was reduced (from 132 to 58), and the groupings of indicators restructured. This revised UNCSD set (UN 2001) is available on the their website, together with all the reports from the countries taking part in the testing process, as well as in Annex B of this paper.

9. A majority of OECD-countries have developed or are in the process of developing a national plan, or strategy, for sustainable development. In many cases, indicators are developed by individual countries in order to monitor and evaluate these strategies.

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1 . This work covers Albania, Algeria, Bosnia Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia and Turkey.

10. This review does not aim to assess or compare the different accounting systems that often support the selection of sustainable development indicators. However, these accounting systems often play a crucial role for co-ordinating and assuring the consistency among the different types of data that enter the construction of indicators of sustainable development. Specific national accounting systems often need to be developed to deal with this type of information. Accounting approaches that can be useful for monitoring sustainable development are described in the newly revised<sup>2</sup> System of Environmental and Economic Accounting (SEEA) (UN *et al.*, forthcoming).

11. This review uses a multi-pronged approach to locating materials for evaluation. The sources available on the Internet are numerous and, where possible, the website addresses are included. The UN-ECE conference held in Ottawa in October 2001 devoted a session to sustainable development indicators, and the papers presented at this session provide a range of useful information at both the conceptual and development level. The summary papers from "Roundtable presentations" held in the context of the OECD Working Group on Environmental Information and Outlooks (WGEIO) have also been used as sources of information. When these sources provided no information for a specific country, we tried to contact country representatives to obtain updated information. A brief literature search was also conducted. Although the review tables 1 and 2 shown in this paper try to include as many countries as possible, the material included should not be considered as exhaustive, particularly in light of the time and resource constraints. More modestly, this review simply maps out what is readily available from all the sources.

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<sup>2</sup> In recent years, members of the London Group have been working on a revision of the System of Environmental and Economic Accounting (SEEA). This document is now in the final stages of editing. A draft version is available at: <http://www4.statcan.ca/citygrp/london/publicrev/pubrev.htm>



### 3. DEVELOPMENT AND EVALUATION OF NATIONAL SETS OF SUSTAINABLE DEVELOPMENT INDICATORS

12. In most of the countries included in this overview, the national statistical institutions (NSIs) played the key role in the development and evaluation of sustainable development indicators (SDI). In addition, in several cases, other government agencies, business and non-governmental organisations were involved in the development phase in order to build acceptance of the indicator sets. A consensus building process was used to reach agreement on a set of indicators encompassing all the different perspectives of various actors in society.

13. A number of countries have referred to the Bellagio Principles<sup>3</sup> (Hardi and Zdan 1997) as guidelines for the choice of indicators, their design, interpretation and communication. The Bellagio principles identify a number of criteria for assessing progress towards sustainable development (see Box 1). Principle 1 stresses the importance of establishing a “vision” of sustainable development, and of translating this vision into concrete goals that are meaningful for decision-makers. Principles 2 through 5 deals with the “content” of any assessment: these stress the need to combine information on the state of the overall system with a practical focus on narrower range of priority issues. Principles 6 through to 8 deal with the “process” of assessment. Principles 9 and 10 highlight the importance of establishing a continuing “capacity” for assessment.

#### BOX 1. BELLAGIO PRINCIPLES

**Principle 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

**Principle 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

**Principle 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

**Principle 4. Adequate Scope**

Assessment of progress toward sustainable development should:

- adopt a time horizon long enough to capture both human and ecosystem timescales 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

<sup>3</sup> The Bellagio principles emerged as the synthesis of deliberations of an international group of measurement practitioners and researchers that came together in Bellagio, Italy in 1996 to review progress to date and to garner insights from ongoing efforts for the development of sustainable development indicators.

- build on historic and current conditions to anticipate future conditions - where we want to go, where we could go

#### **Principle 5. Practical Focus**

Assessment of progress toward sustainable development should be based on:

- an explicit set of categories or an organising 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
- standardising measurement wherever possible to permit comparison
- comparing indicator values to targets, reference values, ranges, thresholds, or direction of trends, as appropriate

#### **Principle 6. Openness**

Assessment of progress toward sustainable development should:

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

#### **Principle 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

#### **Principle 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 with adopted policies and resulting action

#### **Principle 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

#### **Principle 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

(Hardi and Zdan 1997; see also <http://iisd1.iisd.ca/measure/1.htm>)

### **Criteria for indicator selection, use and presentation**

14. Criteria for determining what is a “good” indicator depends on who the users of that indicator are. For this reason, it is impossible to identify indicators that are “good” for all purposes. This reason often accounts for the development of different sets of indicators within each country. While detailed indicators are best suited for experts, “headline” indicators are often used for communicating with a wider audience.

15. In presenting sustainable development indicators, many countries indicate the underlying reasons for their development. Many countries try to illustrate the actual movements in these indicators, although this can be difficult when multiple factors influence their development. To draw attention to key aspects in the evolution of these indicators, some countries have used symbols to highlight the key message. This practice has been used by the United Kingdom, when presenting the Quality of Life headline indicators; by the Nordic Council of Ministers (1997), in their environmental indicator report; and by the European Environment Agency, in their "Environmental signals" reports (EEA 2001*b*).

16. The Bellagio principles (Hardi and Zdan 1997) suggests that the following criteria are important for selecting indicators: *i*) policy relevance; *ii*) simplicity; *iii*) validity; *iv*) availability of time-series data; *v*) good quality, affordable data; *vi*) ability to aggregate information; *vii*) sensitivity to small changes; *viii*) reliability. Several OECD countries also refer to the criteria for indicator selection put forward by the OECD in its work on environmental indicators (see Box 2, and OECD 1998 and 2001*d*):

**BOX. 2. CRITERIA FOR SELECTION OF ENVIRONMENTAL INDICATORS**

**POLICY RELEVANCE AND UTILITY FOR USERS**

**An environmental indicator should**

- Provide a representative picture of environmental conditions, pressures on the environment and society's responses;
- Be simple, easy to interpret and be able to show trends over time;
- Be responsive to changes in the environment and related human activities;
- Provide a basis for international comparisons;
- Be either national in scope or applicable to regional environmental issues of national significance;
- Have a threshold or reference value against which to compare it so that users are able to assess the significance of the values associated with it.

**ANALYTICAL SOUNDNESS**

**An environmental indicator should**

- Be theoretically well founded in technical and scientific terms;
- Be based on international standards and international consensus about its validity;
- Lend itself to being linked to economic models, forecasting and information systems.

**MEASURABILITY**

**The data required to support the indicators should be**

- Readily available or made available at a reasonable cost/benefit ratio;
- Adequately documented and of known quality;
- Updated at regular intervals in accordance with reliable procedures.

17. To influence policy formulation, indicators need to be relatively few in number, clear, concise and analytically robust. In addition, their movements should be interpreted as unambiguous “good” or “bad”. In general, different types of indicators will be used during the different “stages” of the policy process — policy preparation, policy formulation, policy execution and policy evaluation. State indicators are generally used to identify problems in the policy preparation stage. Performance indicators, which focus on changes in driving forces and pressures, are used in the policy formulation stage. Indicators of policy effectiveness and policy response are used to get a wide acceptance of the measures taken by policy-makers during the policy execution phase. State and decoupling indicators become important in the policy evaluation phase, for monitoring results and changes in the state of the environment (EEA 2001*a*).<sup>4</sup>

18. Other criteria used by countries to guide them in their selection process include the need of a close connection between indicators, on one side, and quantitative targets, stated objectives, policy intentions or public expectations, on the other. In addition, indicators should distinguish human interference from natural variability, and should give societies sufficient time to act before crossing a critical threshold. While several countries recognise the importance of including information on critical thresholds for each indicator, they also recognise that this is very difficult in most cases.

**Approaches and data requirements for sustainable development indicators**

19. This review has identified two major approaches to sustainable development indicators. The first approach aims to develop a single, composite index. The second is to develop a set of indicators. A third

<sup>4</sup> The European Environment Agency has also developed a useful typology for environmental indicators (EEA 1999).

approach, still in its emerging phase, uses the notion of “capital stock” as a unifying concept to select indicators.

20. The first approach — developing a single, composite index — implies selecting a number of different components and combining them into a single unit.<sup>5</sup> The obvious advantage of single set of indicators is that it is straightforward to see if the indicator improves or deteriorates from one period to the next. Furthermore the trade-offs between the different components included in the index (e.g. environmental, social and economic aspects) can be explicitly assessed when calculating the index. However, the complexities in defining a common matrix for the aggregation are daunting. Composite indices also risk over-simplifying a complex system, and may give potentially misleading signals. In addition, even when using a single index, it will often be necessary to decompose its changes into the various components, to identify which factors contributed most to the observed change.

21. Examples of single value indices used in the context of discussions on sustainable development include the United Nation “Human Development Index” (HDI); the World Conservation Union (IUCN) “Well-being Index”; the World Economic Forum (WEF) “Environmental Sustainability Index”; the World-Wide Fund for Nature (WWF) “Living Planet Index”; and Redefining Progress “Ecological Footprint” and “Genuine Progress Indicator”.<sup>6</sup> These indices, however, have not been developed as comprehensive indices of sustainable development. The World Bank, on the other hand, has developed measures of changes in assets per capita, and of its flow equivalent — “genuine savings” — for a large number of countries (Hamilton 2000a, b).<sup>7</sup> Within the family of composite indices of sustainability we can also mention the “Dow Jones Sustainability Index Family”, which is published daily and refers to individual corporations (Dow Jones 2001).

22. No country, at this point in time, has officially developed a single index of sustainability<sup>8</sup>. Rather, in all cases, official efforts to devise sustainable development indicators rely on a set of indicators. In many countries, two separate sets are developed; a smaller set of “headline” indicators, generally for purposes of communication with the general public; and a second, more detailed and extensive set of indicators for specialist use. One advantage of using sets of indicators is that the changes across several dimensions of sustainable development can be separately analysed. Its drawback is that it is difficult to make simple statements regarding the direction of the changes, since the various indicators may move in different directions.

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<sup>5</sup> A review of aggregation methodologies is presented in OECD (2001a). One approach using “fuzzy” logic is proposed by Phillis and Andriantiatsaholiniaina (2001), who claim that this methodology is appropriate because of the ill-defined nature of the of sustainability .

<sup>6</sup> Websites for these indices: UN's HDI: <http://www.undp.org/hdr2001/>  
 IUCN's Well-being index: [http://iucn.org/info\\_and\\_news/press/wbon.html](http://iucn.org/info_and_news/press/wbon.html)  
 WEF's Environmental sustainability index: <http://www.weforum.org/pdf/Gcr/EPMTGR/Contents.pdf>  
 WWF's Living planet index: <http://www.panda.org/livingplanet/lpr00/>  
 Redefining Progress' ecological footprint <http://www.rprogress.org/programs/sustainability/ef/> and  
 Genuine progress indicator: <http://www.rprogress.org/projects/gpi/>

<sup>7</sup> Genuine savings has been criticised for being only a one-sided test for weak sustainability. See Pearce and Atkinson (2002) for further discussion. This measure has also been criticised for its limited coverage of social elements. On the other hand, one advantage of this index is that it can be adapted to account for imports and exports, which are important in a global perspective on sustainability (Pearce 2000).

<sup>8</sup> The Netherlands, however, is currently developing measures of sustainable national income (SNI) per capita as one of the indicators in their national set (Heuting and de Boor 2001). The Netherlands set of indicators also includes several a Quality of life index and an Index of ecological value. Denmark lists “genuine savings” as one of their indicators, but states that the method for calculating it is still under development.

23. A third approach that seems to be attracting growing interest relies on the traditional concept of “capital stock” to develop an indicator of sustainability.<sup>9</sup> This approach has its roots in economics and environmental economics, and is often used in the context of discussions on weak/strong sustainability, and in particular in connection with the substitutability of certain forms of capital. As argued by its advocates, an emphasis on capital shifts the focus of indicators from traditional measures of current economic activity to the trends in the use of, and investment in, the stocks of the different forms of capital, which are crucial for the well-being of future generations (NRTEE 2001). The capital approach has not yet been fully developed by any country. However, Canada is using this approach in its work (Smith *et al.* 2001), while recognising the difficulties in defining and combining the different components that need to be included in the various capital categories.<sup>10</sup>

24. No matter which approach is used, reliable, good quality data are needed to quantify indicators. The data also need to be consistent and coherent with other data as well as over time. A number of accounting approaches have been developed to achieve this coherence.<sup>11</sup> Chapter XX of the system of national accounts (United Nations *et al.* 1993) describes the development of social accounting matrices (SAMs), as a tool to develop information systems linking different types of information.<sup>12</sup> Satellite accounts to the national accounts have also been developed to provide additional information that is related to the economic activity of a country.

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<sup>9</sup> It has been argued that this approach provides an indicator *of* sustainability, whereas the sets of indicators are merely providing information regarding conditions *for* sustainability.

<sup>10</sup> Valuation methodologies used to estimate the monetary values of natural resources and of environmental degradation have been under development in recent years. These methods would need to be used in connection with a capital based approach. As examples of this approach, see the work by the London Group and the forthcoming revised SEEA (System of Environmental and Economic Accounts, UN *et al.*, forthcoming), and by the World Bank (1998).

<sup>11</sup> For a review of capital based approaches, see IISD (2000), which describes the World Bank's Wealth of Nations, UN *et al.* SEEA, “dashboard” approach, the United States endowments measures, and the WWF's ecological footprint index. Wackernagel *et al.* (2001) discuss the complementary between monetary and biophysical approaches. See also Chapter 3. "Measurement" in OECD (2001c) for a review of indicator types and frameworks for measuring sustainable development.

<sup>12</sup> These matrices are called "hybrid accounts" in the latest version of the SEEA manual (System of Environmental and Economic Accounts, UN *et al.* forthcoming), and as NAMEA in many European countries (de Haan and Keuning 1996).

## 4. CONCEPTUALISATIONS OF SUSTAINABLE DEVELOPMENT

### Introduction

25. The need to develop and use indicators of sustainable development is based on the approach that “you can only manage what you can measure”. Developing indicators, however, requires a clear “vision” of sustainable development, and the definition of a framework for structuring these indicators. Once this framework is in place, data from existing monitoring programs, accounting systems and statistical surveys can be used to quantify the indicators. Where the data basis is missing or insufficient, new routines can be established. Through this iterative process, the conceptual work on indicators helps to focus on data-collection needs.

### Conceptualisations of Sustainable Development

26. A number of countries define sustainable development in terms of its different components (pillars, axes or dimensions). Other countries rely on flow or capital based models, or on a combination of both. The most common framework used by countries in developing indicators of sustainable development starts from the idea of three pillars of sustainability — economic, environmental and social [or cultural]. Indicators are then defined for each of these three areas. In several cases, countries use the “Driving force / State / Response” (DSR) model, or variants of it, as a second organising element: this is the case of UNCED, and of Finland, Denmark, Korea, Portugal and Belgium.<sup>13</sup>

27. Sweden, on the other hand, approaches sustainable development through four categories: *i*) efficiency; *ii*) contribution and equality; *iii*) adaptability; and *iv*) values and resources for coming generations. According to the Swedes, indicators following this approach allow for a better focus on the different elements involved in the transition towards sustainability, rather than on sustainability of society in a given moment.

28. A similar idea is found in Australia's approach, which is based on the notion of “progress”. Progress is considered to be a multi-dimensional concept, where all its dimensions are intertwined. It encompasses economic aspects of life, such as material standards of living, but also social and environmental ones. Several indicators are proposed to measure these different “dimensions” of progress.

29. France's approach to sustainable development indicators describes five major axes of sustainable development (pertaining to economic growth, critical capital stocks, local/global interface, current needs, and future needs), which are further subdivided into a number of modules:

Module 1, which focuses on the need to achieve a “balanced” growth, generating more employment and productivity and less externalities.

<sup>13</sup>

Another “dimension” of sustainable development that is often mentioned in the context of work on indicators covers institutional aspects. The institutional dimension was one of the four categories (economic, environment, social and institutional) used by UNCED to structure both their original set of indicators (UN 1996), and their revised one (UN 2001). The EEA's variant of the PSR model, known as the DPSIR (Driving force - Pressure - State - Impact - Response) is also used sometimes.

Modules 2 and 3, where specific attention is paid to the maintenance of critical stocks of resources, including human and institutional capital.

Modules 4 and 5, which consider the need to achieve a good articulation between the local and global level.

Modules 6 and 7, which consider the needs of current generations such as reductions of inequalities (objective condition) and dissatisfactions (subjective condition).

Modules 8 and 9, which consider the needs of future generations. This requires the application of the precautionary principle in resource management, and the adaptation to unforeseeable events (capacity to absorb breaks and crises).

30. The Netherlands relies on a three-by-three matrix to develop and present their indicators. The matrix has columns for socio-cultural, financial-economic and ecological-environmental factors; and rows referring to “here and now”, “here and later”, and “elsewhere, now and later”. This matrix shows explicitly how each country is affecting global sustainability and the sustainability of other countries, both now and in the future.

31. The United States framework<sup>14</sup> organises indicators into three major categories: *i*) long-term endowments and liabilities; *ii*) processes; and *iii*) current results. These categories are further divided into subcategories for the economy, the environment and society. The “current results” indicators highlight the progress or shortcomings in improving current conditions and human well-being. Indicators for “long-term endowments/liabilities” provide insights into possible future challenges: they measure the status of resources, as well as the capacities and liabilities that are passed on to future generations. The “process” indicators focus on the driving forces that affect the long-term endowments and liabilities or current results: they include both earth systems and human activities.

32. Germany presents its indicators for sustainable development through a model that has two concentric spheres (Federal Environmental Agency of Germany 2001). An “inner oval” represents the human sphere and includes human activities such as social affairs, politics, culture and the economy. An “outer oval” represents the ecological sphere. To facilitate the development of indicators using this integrated approach, a new selection structure (NAPSIR, needs-activities-pressure-state-impact-response) has been introduced.

33. In Switzerland's Monet Project (SFSO, *et al.* 2001a, 2001b), sustainable development is described as a “regulative idea, based on an ethics of duty and on an expression of a fundamental understanding of justice spanning societies and generations”. The Swiss approach to indicator development has followed a step-wise approach: conceptualisation of sustainable development is followed by the identification of three target dimensions (social solidarity, economic efficiency, environmental responsibility). Postulates regarding the target dimensions are then developed, and these then lead into the selection of specific indicators.

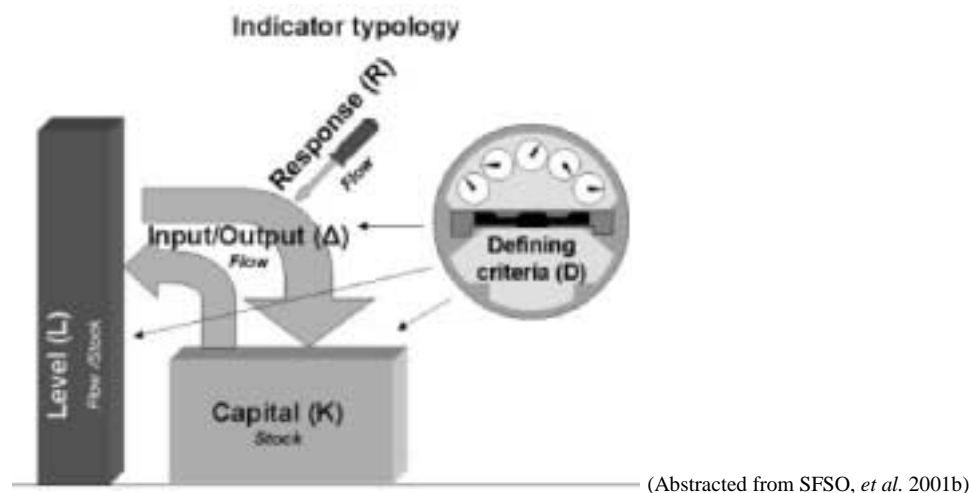
34. Figure 1 shows the Monet stock-flow model (SFSO, *et al.* 2001b) used by Switzerland as a framework to classify indicators. “Level indicators” capture the extent to which the needs of individuals and society are met. “Capital indicators” are concerned with the status and potential of social, economic and environmental resources. “Input-output indicators” measure the factors that result in capital appreciation (or increases) and depreciation (or diminishing). The “defining criteria indicators” assess to what extent

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<sup>14</sup> The President's Council on Sustainable Development did not have its term extended beyond 1999 (Maurer 1999).

capital is used in a (socially) responsible and (economically and environmentally) efficient manner. The “response indicators” highlight the social and political measures introduced to influence development.

**Figure 1. Indicator typology from Switzerland's Monet Project**



35. Both Switzerland and the United Kingdom models include the three pillars of sustainable development and express these as three different types of capital; however capital is not used as their major framework. In contrast, the capital stock model is the major focus of efforts pursued by Canada. The Canadian approach identifies three types of capital: produced, natural and human.<sup>15</sup> Produced capital includes produced goods that provide benefits to their owners over time. Natural capital is divided into three categories: natural resources, land and ecosystems. Human capital is described as the capabilities, or capacities, of the working-age population that allow it to work productively with other forms of capital to sustain economic production. The purpose of indicators is to track whether today's economic activity is threatening the ability of future generations to create their own healthy economy. Statistics Canada (2001) suggest that the indicators developed using a capital approach would differ from those derived from a more traditional three-pillar approach but do not explore this in any depth.

36. The United Kingdom has chosen a different framework for their indicator work. The framework relies on “quality of life” as the organising concept. Variables used to assess the social aspects of the quality of life appear to be broader than in the Canadian approach.<sup>16</sup> The United Kingdom has developed two sets of “Quality of Life” indicators: first, a set of “headline” indicators; and second, a more extensive set of national indicators. Regional and local quality of life indicators are also proposed.

37. Because of the very different approaches to indicator development used by the countries covered in this review, it is not possible to evaluate whether an indicator set from one country is “better” than another country's. Each of these approaches reflect the cultural, natural and economic heritage of each country, and are tailored to the specific strategy or plan of that country.

<sup>15</sup> Pearce and Atkinson (2002) and OECD (2001c: Chapter 2), on the other hand, talk about four types of capital: man-made, human, natural and social.

<sup>16</sup> The Canadian capital model discusses human capital as the capabilities or capacities of the working-age population that allow it to work productively with other forms of capital to sustain economic production. Traditionally applied to education but can also be applied to health of the working population. This approach has a focus on those that are still working whereas the UK includes indicators relating to poverty and social exclusion, crime and housing that are relevant to all parts of the population and not only to those in the work force.



## 5. COMPARISON OF INDICATORS ACROSS VARIOUS COUNTRIES

38. Although this overview does not provide any evaluation of the indicator sets used by different countries, cross-country comparisons highlight both similarities and differences. All of the national sets of sustainable development indicators that were accessible to the authors were examined. Tables 1 and 2 highlight the major similarities and differences.

39. The categories (or themes) shown in the rows of Table 1 are those identified in the latest UNCSD core set of indicators (UN 2001). The comparison is made by theme rather than at the indicator level. A “✓” indicates that the indicator set of a given country contains at least one indicator that is relevant to each specific theme. Assessing whether a country has an indicator pertaining to a certain theme is not always easy because of the diversity of indicators, their different definitions and the different descriptions of the national indicators. There are also classification problems, for example when a country (e.g. the Netherlands) has a multi-dimensional index that is relevant to several themes.

40. The revised UNCSD themes were used as a starting point since many countries have used it as the starting point of their national effort to develop sustainable development indicators. When countries have grounded their work in the UNCSD framework, there is often a close correspondence between the UN and national sets, and many check marks will appear for that country.

41. Table 1 highlights specific country features with regard to sustainable development indicators. All countries include indicators for climate change, agriculture, forests, ecosystems and economic performance. Several include indicators for poverty, gender equity, education, crime, water quality and quantity, species, financial status and material consumption. Only one country has a proposal to have an indicator relevant to desertification.

42. However, beyond themes included in the UNCSD's core set of sustainable development indicators, several other themes were identified by this review. Table 2 lists some among the most common of these (non-UNCSD) themes, and the countries where they occur. Acidification and toxic contamination are two of the themes most often covered in national sets. Other countries include indicators relating to ethnic minorities, either with a focus on indigenous peoples or on integration of immigrants. Several countries also used indicators for illness due to pollution and life style factors. Coverage of such health issues seem to have increased alongside higher awareness of these health risks among the general public. Details on the specific indicators covered by Tables 1 and 2 are provided in Appendix B.<sup>17</sup>

**Table 1. Comparison of different SD indicator sets<sup>18</sup>**

UNCSD Categories and themes	Australia	Denmark	Finland	Korea	Netherlands	Portugal	Sweden	Switzerland	United Kingdom	United States	EU struct. indic.
<b>SOCIAL</b>											
• <b>Equity</b>											
Poverty		✓	✓	✓	✓	✓		✓	✓	✓	✓
Gender Equality	✓		✓	✓	✓		✓	✓	✓		✓
• <b>Health</b>											
Nutritional Status				✓							

17. At this stage, only the names of the indicator groups (themes), rather than the indicator names themselves, are included for Switzerland. Indicators for France are not included, as they are currently undergoing major changes.

18. The French indicators are under revision and will be substantially reduced in number in the near future, for this reason the French indicators were not evaluated and included in the table. See description in Appendix A for France for additional information.

Mortality	✓	✓	✓	✓	✓	✓			✓	✓	
Sanitation				✓		✓		✓			
Drinking Water		✓	✓	✓		✓			✓		
Healthcare Delivery				✓		✓			✓		
• <b>Education</b>											
Education level	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Literacy						✓		✓	✓		
• <b>Housing</b>											
Living Conditions		✓		✓	✓			✓	✓	✓	
• <b>Security</b>											
Crime			✓	✓	✓	✓	✓	✓	✓	✓	
• <b>Population</b>											
Population Change	✓		✓	✓			✓		✓	✓	
<b>ENVIRONMENTAL</b>											
• <b>Atmosphere</b>											
Climate Change	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ozone Layer Depletion		✓	✓	✓	✓	✓			✓	✓	
Air Quality	✓		✓	✓		✓		✓	✓	✓	✓
• <b>Land</b>											
Agriculture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Forests	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Desertification						✓					
Urbanization	✓	✓	✓	✓				✓	✓		
• <b>Oceans, Seas, and Coasts</b>											
Coastal Zone	✓		✓	✓	✓	✓			✓		
Fisheries	✓	✓	✓	✓	✓	✓	✓		✓	✓	
• <b>Fresh-Water</b>											
Water Quality	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Water Quantity	✓	✓	✓	✓	✓	✓		✓	✓	✓	
• <b>Biodiversity</b>											
Ecosystems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Species	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
<b>ECONOMIC</b>											
• <b>Economic Structure</b>											
Economic Performance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trade		✓		✓	✓	✓		✓	✓		
Financial Status	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• <b>Consumption &amp; Production Patterns</b>											
Material Consumption		✓	✓	✓	✓		✓		✓	✓	
Energy Use	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Waste Generation and Management		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transportation		✓	✓	✓		✓	✓	✓	✓	✓	✓
<b>INSTITUTIONAL</b>											
• <b>Institutional Framework</b>											
Strategic Implementation of SD		✓		✓					✓		
International Cooperation		✓				✓		✓	✓		
• <b>Institutional Capacity</b>											
Information Access			✓	✓		✓		✓			✓
Communication and Infrastructure			✓	✓							
Science and Technology			✓	✓	✓	✓	✓	✓			✓
Disaster Preparedness and Response				✓				✓			

**Table 2. Other common themes and indicators identified from country-level sustainable development indicators**

Categories and themes	Denmark	Finland	Nether-lands	Portugal	Sweden	Switzer-land	United Kingdom	United States
<b>SOCIAL</b>								
Life styles and illnesses		✓				✓	✓	
Health (pollution related illnesses)	✓				✓		✓	
Ethnic Minorities		✓	✓			✓	✓	
Cultural Heritage		✓					✓	
Participation in arts and recreation			✓					✓
<b>ENVIRONMENTAL</b>								
Acidification	✓	✓	✓				✓	
Toxic contamination	✓	✓		✓	✓	✓	✓	✓
Alien species								✓
<b>ECONOMIC</b>								
Tourism	✓			✓			✓	

**Names of indicator sets included in Tables 1 and 2:**

**Australia:** Headline Sustainability Indicators (HSI)  
**Denmark:** Set of indicators associated with the Danish national strategy for sustainable development  
**Finland:** National sustainable development indicators for Finland  
**Korea:** Korean Sustainable Development Indicators  
**Netherlands:** Indicators of sustainable development for the Netherlands  
**Portugal:** Proposal for a system of sustainable development indicators (Proposta para um Sistema de Indicadores de Desenvolvimento Sustentável)  
**Sweden:** Sustainable Development Indicators for Sweden – a first set 2001  
**Switzerland:** MONET – Monitoring of sustainable development  
**United Kingdom:** Headline indicators in the UK sustainable development strategy and Core set of indicators of sustainable development (Quality of life counts)  
**United States:** Sustainable development in the United States. An experimental set of indicators  
**EU:** Structural indicators

## 6. CONCLUSIONS AND ISSUES FOR FUTURE WORK

43. Most OECD countries have already, or are in the process of developing a national strategy or plan for sustainable development. To support these strategies, they often establish indicators to monitor progress being made in their implementation. Many countries are aiming to establish their plans and indicator sets in time for the forthcoming World Summit on Sustainable Development.

44. Although several countries refer to cross-country comparability as one of their goals, it does not appear that this goal will be easily achieved. When trying to determine whether countries had an indicator covering a certain theme (Table 1), we found that it was often difficult to make an unequivocal evaluation. Trying to evaluate whether individual indicators are comparable across countries, in terms of data and definitions used, is an even greater challenge.

45. Many countries are still at the stage of proposing set of indicators, indicating their names and broad methodological description. The next step for many countries will be to find appropriate data to quantify the various indicators. In turn, the process of quantifying the indicators is likely to lead to further revisions

of the original list of indicators, in their definitions and calculation methodologies. Also, data needs may lead to new data collection routines. Countries will need to gain experience before seriously considering the harmonisation of indicator sets among countries.

46. The work of international organisations such as the UNCSD, OECD, and Eurostat is contributing significantly to the development of sustainable development indicators at the national level. Testing the proposed indicators in individual countries, providing feedback, and proposing new indicators and methodologies are helping countries to make practical progress towards establishing their own national indicator sets. One problem for international comparability is that countries are choosing selectively from the lists proposed by international organisations: one country's choices from the lists put forward by international organisations do not necessarily correspond to those of another country. This suggests that international organisations will need to focus their future efforts on defining indicators at the international or global level, harmonising data, providing guidance and co-ordination, and building consensus among countries.

47. One problem that currently appears insurmountable is that the different approaches used by countries in defining sustainable development leads to different indicators being selected. Since the definition of sustainable development is by nature contextual and culturally dependent, it would not seem appropriate to impose a common definition on all countries. However, this process could lead to some "common" indicators, which could be used as a starting point for further harmonisation and international comparability.

48. In their work on indicators, some countries are identifying areas that are less developed than others. One such area singled out by several countries is the interface between the social and the environment components of sustainability. Another area requiring further development pertains to the trade-relation between industrialised and developing countries. Several countries are considering how best to reflect this relation into their national set of sustainable development indicators.

49. Trying to stay up-to-date in this field is not easy since so many countries are currently actively working to establish national indicator sets. One good source of information that is regularly updated is the website maintained by the International Institute for Sustainable Development (<http://iisd1.iisd.ca/measure/compindex.asp>).

**APPENDIX A.  
REVIEW OF INITIATIVES IN OECD COUNTRIES AND SELECTED INTERNATIONAL  
ORGANISATIONS**

*OECD countries*

*Australia*

Name of indicator set or project:

A. *Headline Sustainability Indicators (HSI).*

Participating institutions:

Commonwealth Government and ANZECC (Australian and New Zealand Environment and Conservation Council). Australian Bureau of Statistics. The indicator set has been developed in consultation with all Commonwealth agencies, other jurisdictions, key stakeholders and the general public. Compilation and publishing is done by Environment Australia.

Major structure/framework used:

The set is structured by the core objectives of the National Strategy for Ecologically Sustainable Development (NSED):

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- to provide for equity within and between generations; and
- to protect biological diversity and maintain essential ecological processes and life-support systems.

Brief description:

The purpose of the indicator set is "to provide a base line against which future trends towards or away from the objectives of the NSED could be measured." The HSI is addressing the issue of whether social and economic progress is sustainable in the context of Australian ecosystems and the national resource base.

Important criteria for indicator selection:

- relevant to NSED objectives
- scientifically and statistically credible
- sensitive to change
- reliant on data which are already available in other contexts
- reasonably easy to understand

For each of the three NSED objectives described above, a set of "values" has been identified, each value representing one key aspect of the objective. Indicators to measure these values were then determined.

The set contains 24 indicators, and in addition four so-called contextual indicators relating to population issues. A number of supplementary indicators have also been determined.

No aggregation or weighting of indicators is done.

Literature references and web-links:

ABS (2001a),

*Measuring Australia's Progress*. Plans for a new publication: Main Paper. Consultation 1 May–30 June. Australian Bureau of Statistics.

ABS (2001c),

*Development of headline sustainability indicators in Australia*. Working paper no. 15. Paper submitted by the Australian Bureau of Statistics to the Joint ECE/Eurostat Work Session on Methodological Issues of Environment Statistics, Ottawa, Canada, 1–4 October.

<http://www.ea.gov.au/>

<http://www.abs.gov.au/>

Name of indicator set or project:

B. *MAP – Measuring Australia's Progress*; plans for a new publication.

Participating institutions:

Australian Bureau of Statistics

Major structure/framework used:

Headline Dimensions of Progress:

**Economic**

- National income
- National wealth

**Environmental**

- Air quality
- Greenhouse gases
- Land
- Water
- Wildlife

**Social**

- Crime
- Education
- Health
- Income
- Social attachment
- Work

Brief description and comments:

The project is under development. It is intended to provide a national summary of many of the most important areas of progress. Suite-of-indicators approach: Sets out key aspects of progress and discusses links between them. MAP provides (at present) 14 headline indicators of progress.

The MAP-projects is examining economic, social and environmental progress. The indicators are grounded in the conceptual frameworks that underlie the national statistical system; they are being selected by ABS, guided by independent experts in welfare and in the analysis of progress. MAP is not directly addressing sustainability. The MAP and HSI initiatives complement one another.

Literature references and web-links:

ABS (2001a),

*Measuring Australia's Progress*. Plans for a new publication: Main Paper. Consultation 1 May–30 June. Australian Bureau of Statistics.

ABS (2001b),

*Measuring Australia's Progress*. Plans for a new publication: Background information. Consultation 1 May–30 June. Australian Bureau of Statistics.

***Austria***

Brief description and comments:

A national Strategy for Sustainable Development including indicators is under development (a draft version exists). The strategy will contain 20 guiding targets, and 45 to 50 corresponding indicators. Sustainability co-ordinators have been appointed for each federal province with the responsibility to prepare a harmonised environmental policy incorporating sustainable development into sectoral policies.

Austria was an official test nation for the UNCSD SDIs. <http://www.un.org/esa/sustdev/indi4at.htm> (UN web-address to the Austrian report).

***Belgium***

Brief description and comments:

The Belgian Federal Council for Sustainable Development is an advisory body that advises the Belgian federal authorities about the federal policy on sustainable development. Belgium has a federal Plan for sustainable development (2000-2004). (<http://www.belspo.be/frdocfdd/en/frontpag.htm>). The plan includes a number of indicators, but there is no official or established set of sustainable development indicators. Indicators are currently under development.

Belgium was an official test nation for the UNCSD SDIs and used this experience to develop the federal plan. <http://www.un.org/esa/sustdev/indi4be.htm> (UN web-address to the Belgian report).

Literature references and web-links:

Bureau fédéral du Plan - Task Force Développement durable (1999),

*Sur la voie d'un développement durable*. Rapport fédéral sur le développement durable. Bruxelles, Belgium.

<http://www.ciddd.fgov.be/>

***Canada***

Name of indicator set or project:

*Environment and Sustainable Development Indicators* (this set is currently under development).

Participating institutions:

The National Round Table on the Environment and the Economy (NRTEE), Environment Canada, Statistics Canada.

Major structure/framework used:

The NRTEE is recommending a "capital approach," that will track stocks of key types of capital – produced, natural and human – needed by future generations.

Brief description and comments:

The purpose of the project is to develop Environment and Sustainable Development Indicators (ESDI).

Quote from the NRTEE-Internet-site concerning the capital approach: *"Some of the important assets that will be tracked will include stocks of natural resources, as well as the crucial ecosystem services (such as the provision of clean water and soil) that our society and our economy depend upon.. This emphasis on capital shifts the focus of indicators from traditional measures of economic activity such as GDP, to trends in the investment and stocks of the different forms of capital, that all support a high quality of life.. While the concept of produced capital is relatively easy to identify and place a value upon, and progress has been made in the area of human capital, the most difficult challenge is that of natural capital."*

Literature references and web-links:

Environment Canada (2001),

*Environmental Data, Indicators and Reporting in Canada.* Paper prepared for the roundtable presentation of activities in Member countries. OECD Working Group on Environmental Information and Outlooks, 31<sup>st</sup> Meeting, October 17–19, Paris.

Statistics Canada (2001),

*A Proposed approach to sustainable development indicators based on capital.* Working paper no. 9. Paper submitted by Statistics Canada to the Joint ECE/Eurostat Work Session on Methodological Issues of Environment Statistics, Ottawa, Canada, 1–4 October.

[http://www.nrtee-trnee.ca/eng/programs/Current\\_Programs/SDIndicators/index.html](http://www.nrtee-trnee.ca/eng/programs/Current_Programs/SDIndicators/index.html)

[http://www.nrtee-trnee.ca/eng/programs/Current\\_Programs/SDIndicators/Approach\\_to\\_Indicators/SDIndicators\\_Approach\\_e.htm](http://www.nrtee-trnee.ca/eng/programs/Current_Programs/SDIndicators/Approach_to_Indicators/SDIndicators_Approach_e.htm)

[http://www.nrtee-trnee.ca/eng/programs/Current\\_Programs/SDIndicators/Program\\_Research/StatsCanada-SDIreport\\_E.pdf](http://www.nrtee-trnee.ca/eng/programs/Current_Programs/SDIndicators/Program_Research/StatsCanada-SDIreport_E.pdf)

## **Czech Republic**

Brief description and comments:

The Czech Republic was an official test nation for the UNCSD SDIs.

A national strategy for sustainable development is under preparation in the Czech Republic (Ministry of Environment and the Czech Environmental Institute). Web-address to the NSD strategy: <http://www.env.cz/> (presently only in Czech, but the English version will be put on the same internet address).

No national set of sustainable development indicators has yet been developed, but initial work has started. In connection with the fulfilment of OECD recommendations on sustainable development a working group has been established to prepare a set of sustainability indicators.

Literature references and web-links:



Czech Environmental Institute (1999),  
*Testing United Nations' Indicators of Sustainable Development*. Czech Environmental Institute, Prague  
30<sup>th</sup> October.  
<http://www.un.org/esa/sustdev/indi4cz.htm> (UN web-address to the Czech report).

### ***Denmark***

#### Name of indicator set or project:

#### *Indicator Set*

Set of indicators associated with the Danish national strategy for sustainable development.

#### Participating institutions:

The Danish Government is the responsible institution.

#### Major structure/framework used:

The set of headline indicators (key indicator set) is structured according to the 8 goals and principles of the Danish strategy for sustainable development.

The detailed set of indicators is structured according to the 14 priority areas of the sustainable development strategy. For each of these priority areas, indicators for goals and measures have been developed<sup>19</sup>:

1. Forestry
2. Industry, trade and services
3. Transport
4. Energy
5. Town and residential development
6. Tourism
7. Climate change
8. Biodiversity, protection of the environment and access to nature
9. Environment and health – chemicals, environmental pollution, foodstuff, working environment and indoor climate
10. Resources and resource efficiency
11. The regional and global dimension, including Denmark's international contribution
12. Food production and food supply security, agriculture and fisheries
13. Measures and information and knowledge basis
14. Public participation and Local Agenda 21

#### Brief description and comments:

The indicator set was developed after a hearing round among relevant institutions.

The indicators are connected to the national strategy for sustainable development, implemented in Spring 2001. The indicators will describe the developments and results of this strategy.

The indicator set consists of two parts:

- One detailed set, specific to each priority area of the strategy. This includes a total of 102 indicators (including 2 indicators related to UN-goals). This will be updated on an annual basis and

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<sup>19</sup> Unofficial translation by the authors.

will be available on a designated website. On special occasions this set may also be published as a written report.

- One set of key or headline indicators, consisting of 15 indicators. This set will be updated annually and made available in a brochure or pamphlet format. These indicators are, to a large degree, incorporated in the detailed set (see appendix tables for details).

The indicators with data will be published for the first time spring 2002.

Literature references and web-links:

The Danish Government (2001),

*Indikatorsæt. Knyttet til Danmarks nationale strategi for bæredygtig udvikling "Udvikling med omtanke – fælles ansvar".* (Set of indicators associated with the Danish National Strategy for Sustainable Development, in Danish). October.

Web-links to the SD indicator set:

<http://www.mst.dk/tvær/bæredygtighed/indikatorsaet.doc> or

<http://www.mst.dk/tvær/bæredygtighed/Indikatorer-publ.pdf>

Web-link to the SD strategy: <http://www.mst.dk/tvær/bæredygtighed/0612samlet.doc>.

## ***Finland***

Name of indicator set or project:

*National sustainable development indicators for Finland.*

Participating institutions:

Main responsibility is of the Ministry of the Environment. Working Group participation: Ministry of Trade and Industry, Ministry of Transport and Communications, Ministry of Agriculture and Forestry, Ministry of Education, Ministry of the Interior, Ministry of Labour, Ministry of Foreign Affairs, Association of Finnish Local and Regional Authorities, Government Institute for Economic Research, Statistics Finland, Finnish Environment Institute.

Major structure/framework used:

The three dimensions of sustainable development: Ecological, Economic and Socio-cultural. For these dimensions a set of issues (see Appendix table 1 and Appendix B) were identified, and indicators for each issue developed.

Brief description and comments:

Finland was an official test nation for the UNCSD SDIs. The result from the testing of the UN indicators (Rosenström and Muurman 1997) showed the need to develop a better set of indicators adapted to Finnish conditions, in addition to those chosen directly from the UN list. The set of national SD indicators will be used in monitoring the Finnish Government's *Programme for Sustainable Development*.

The set contains 83 indicators with links between the indicators. There is no aggregation or weighting of indicators.

Literature references and web-links:

Rosenström, U. and J. Muurman (1997),  
Results from testing CSD Indicators of Sustainable Development in Finland 1997. Finnish Environment Institute. Helsinki. <http://www.un.org/esa/sustdev/indi4fi.htm> (UN web-address to the Finnish test report)

Rosenström, U. and M. Palosaari (eds.) (2000),  
*Signs of sustainability. Finland's indicators for sustain-able development 2000*. Ministry of Environment and Finnish Environment Institute.  
<http://www.vyhfi/eng/environ/sustdev/indicat/inds2000.htm>

### **France**

#### Name of indicator set or project:

*Les indicateurs de développement durable (Sustainable development indicators)*

#### Participating institutions:

Ministry of Spatial Planning and Environment (MSPE). Coordinating institution: Institut Français de l'Environnement (IFEN; French Institute for the Environment).

#### Major structure/framework used:

The modules are grouped into five main axes (or themes), characterising sustainability as defined in the Brundtland report:

- A balanced growth, generating more employment and productivity and less externalities (module 1).
- Specific attention to the maintenance and re-establishment of critical stocks, including human and institutional capital (modules 2 and 3).
- Good articulation between the local and global level (modules 4 and 5).
- Meeting needs of current generations through reductions of inequalities (objective condition) and dissatisfactions (subjective condition, modules 6 and 7).
- Consideration of the needs of future generations through the application of the precautionary principle in resource management, and the adaptation to unforeseeable events (capacity to absorb breaks and crises, modules 8 and 9).

#### Brief description and comments:

A total of 307 indicators have been identified. See working paper mentioned below for list of all indicators (available only in French).

Since 1996, (and in parallel to the UN testing exercise), IFEN has been developing its own national SDI program following a request from the MSPE. A methodological framework has been elaborated to integrate the various components of sustainable development. This framework is divided into 9 modules (or themes), each of these modules being homogenous and specific. In 1998/1999, more than 50 national experts, decision-makers and scientists collaborated to the IFEN SDI program. This consultation led to a technical document containing the outlines of about 300 national SDIs (published in 2001, IFEN, Etudes & Travaux n°35). Following this methodological exercise, a selection process, based on a wide public consultation, took place in order to prepare a booklet presenting "50 SDI for France", compiled and analysed, which was issued and presented at the Rio +10 Summit (IFEN publication forthcoming by summer 2002, both in French and English).

France was an official test nation for the UNCSD SDIs. <http://www.un.org/esa/sustdev/indi4fr.htm> (UN web-address to the French report).

See also: *Blue Plan Indicators*, Mediterranean Commission on Sustainable Development.

Literature references and web-links:

IFEN (2001),

*Propositions d'indicateurs de développement durable pour la France*. Collection «Etudes et travaux», n° 35, Novembre, Institut français de l'environnement (IFEN), Orléans, (<http://www.ifen.fr/pages/et35.pdf>)

**Germany**

Name of indicator set or project:

*Indicator System of Sustainable Development in Germany*

Participating institutions:

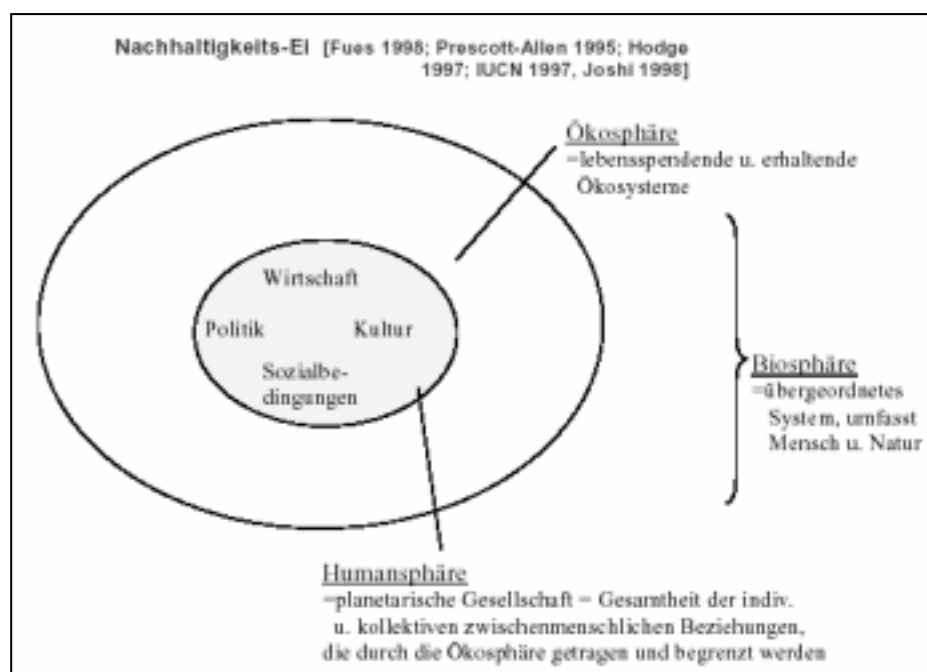
The Federal Environmental Agency, Ministry of the Environment, Nuclear Safety and Nature Protection, Interministerial task force under the leadership of the Ministry of the Environment, Nuclear Safety and Nature Protection.

Major structure/framework used:

"Two spheres model":

- Inner sphere: Human needs sphere (human needs – economy, social affairs, politics, culture)
- Outer sphere: Environmental sphere (assets, capabilities, use of natural resources)

**Figure 2. Sustainability two-spheres model**



Selection structure or framework: N-A-P-S-I-R (see below).

Brief description and comments:

The project has three major aims:

- First. Development of a national set of sustainability indicators.  
Proposal of a national framework for SD-indicators based on analysis of the structure of international systems and definition of SD-issues. Selection of indicators (60–80 indicators), which are compatible with international approaches to the greatest possible extent;
- Second. Development of "satellite indicator systems".  
These are indicator sets (15 indicators) for priority issues of the national sustainability strategy (e.g. climate change, mobility);
- Third. Development of a limited set of key sustainable development indicators (about 20).

The project tries to use a holistic framework for sustainability reporting. It does not follow the common three (or four) pillar system of sustainability (economic, social and environmental), because this approach leads more to separation of issues than to integration. Instead, it relies on a two-sphere system (derived from Brundtland definition of sustainability) as framework for the selection of objectives and indicators. This approach illustrates the close interrelationship of man and nature.

Main sustainability objectives and issues were formulated for each of the chosen spheres. To facilitate the identification of indicators according to an integrated approach, a modified pressure-state-response approach has been introduced, called NAPSIR (needs-activities-pressure-state-impact-response).

Since spring 2001, the project has offered strong support to the development (structure and indicator selection) of the German Sustainability Strategy including 21 key indicators on sustainable development.

The project "Indicators on sustainable development" will end in October 2002. The results will be a basis for reporting on sustainable development in Germany and following up policy implementation.

Germany was an official test nation for the UNCSD SDIs. <http://www.un.org/esa/sustdev/indi4de.htm> (UN web-address to the German report).

Literature references and web-links:

Federal Environmental Agency of Germany (2001),

*List of ongoing and planned actions in Germany in the field of environmental data, indicators and reporting as well as sustainable development indicators.* Paper prepared for the roundtable presentation of activities in Member countries. OECD's Working Group on Environmental Information and Outlooks, 31<sup>st</sup> Meeting, October 17–19, Paris. [http://www1.oecd.org/env/soeg/docs/deu\\_2001.pdf](http://www1.oecd.org/env/soeg/docs/deu_2001.pdf)

German Government,

[http://eng.bundesregierung.de/dokumente/Pressemitteilung/ix\\_65804\\_2726.htm](http://eng.bundesregierung.de/dokumente/Pressemitteilung/ix_65804_2726.htm)

[http://www.bundesregierung.de/ordner/dokumente/Schwerpunkte/Nachhaltige\\_Entwicklung/ix6080\\_68502](http://www.bundesregierung.de/ordner/dokumente/Schwerpunkte/Nachhaltige_Entwicklung/ix6080_68502)

**Greece**

Brief description and comments:

No national SD indicator set has been established.

See also: *Blue Plan Indicators*, Mediterranean Commission on Sustainable Development.

***Hungary***Brief description and comments:

A project titled "A comprehensive indicator report on sustainable development" has started. Project duration is 2001–2002. The target of the project is described as "Communicating integrated approximation to economic, social/cultural, environmental and institutional (and security) aspects for both the general public and high level decision-makers at national and regional level".

Literature references and web-links:

*Ongoing and planned actions in Hungary in the field of environmental data, indicators and reporting (2001–2004)*. Paper prepared for the roundtable presentation of activities in Member countries. OECD's Working Group on Environmental Information and Outlooks, 31<sup>st</sup> Meeting, October 17–19, Paris. (Not available as electronic version on the working group's web-site).

***Iceland***Brief description and comments:

Iceland is developing a second national strategy for sustainable development which should be adopted by Spring 2002. The strategy is intended to be a flexible framework, updated at regular intervals. A set of indicators, based loosely on the Pressure-State-Response model, is planned for publication in July 2002. The indicators will be developed in line with major international indicator sets, with some specific indicators focusing on issues of particular concern for Iceland.

***Ireland***Name of indicator set or project:

*National set of headline indicators for sustainable development* (this set is currently under development).

Participating institutions:

Activities co-ordinated by the Department of the Environment and Local Government. COMHAR – The National Sustainable Development Partnership was established in 1999. The forum has 25 members drawn from a wide range of representative bodies across the Irish economy and society.

Brief description and comments:

The structure of the indicator set is unknown.

*Sustainable Development: A Strategy for Ireland*, was published in April 1997.

Literature references and web-links:

Irish Environmental Protection Agency (2001),

*Ongoing and Planned Country Actions: Environmental Data, Indicators and Reporting and Sustainable Development Indicators. Ireland*. Paper prepared for the roundtable presentation of activities in Member countries. OECD's Working Group on Environmental Information and Outlooks, 31<sup>st</sup> Meeting, October 17–19, Paris.

Some useful web-links:

<http://www.sustainableireland.org/comhar/comhar.htm>

<http://www.epa.ie/>

<http://www.environ.ie/environ/envindex.html>

### ***Italy***

A strategy for environmental action for sustainable development is established (Strategia d'azione Ambientale per lo Sviluppo Sostenibile). Indicators connected to environmental areas (climate, biodiversity, environmental quality) have been developed. Although a national set of indicators for sustainable development was not identified, a complete list of indicators addressing specific environmental themes is included in the strategy document (see web-address below).

#### Brief description and comments:

See also: *Blue Plan Indicators*, Mediterranean Commission on Sustainable Development.

#### Literature references and web-links:

Ministero dell'ambiente e della tutela del territorio (2001),  
Strategia d'azione ambientale per lo sviluppo sostenibile in Italia,  
[http://www.minambiente.it/SVS/johannesburg/docjohannes/strategia\\_azione\\_ambientale.pdf](http://www.minambiente.it/SVS/johannesburg/docjohannes/strategia_azione_ambientale.pdf).

### ***Japan***

#### Brief description and comments:

Japan has implemented a *Basic Environmental Plan* and a comprehensive set of environmental indicators. One of the objectives of these indicators is to review the long-term goals of the Environmental Plan relating to the following four areas: *i*) environmental sound material cycle; *ii*) harmonious coexistence; *iii*) participation; and *iv*) international activities. These indicators have been developed by an advisory group to the Director General of the Planning and Co-ordination Bureau of the Environmental Agency.

No indicators or national strategy for sustainable development has been identified.

#### Literature references and web-links:

Ministry of Environment, Environmental reports, etc. on: <http://www.env.go.jp/en/index.html>

### ***Korea***

#### Name of indicator set or project:

*Korean Sustainable Development Indicators*

#### Participating institutions:

Korean Ministry of Environment, Korean Environment Institute, Eco Frontier Co.

#### Major structure/framework used:

Environmental, social, institutional and economic indicators. Theme / Sub-theme framework (see UN) is used.

#### Brief description and comments:

Based on UNCSD framework and indicators although additional indicators have been used for Korea. A total of 53 indicators (and 12 sub-indicators) have been categorised under 15 themes and 37 sub-themes.

Quote from the English summary of the indicator report: "*This work draws and extends the recently revised UN list of 57 core SDIs. This up-dated compilation of SDIs supports the UNCSD institutional process of assessing, testing and consolidating a common approach to the measurement of sustainable development. A key task in this work has been a detailed review of the UNCSD 2000 core list, carried out internally*".

Literature references and web-links:

Young-Keun Chung (2001),  
*Sustainable Development Indicators for Korea*. English summary. Korea Environment Institute. Seoul.

***Luxembourg***

Participating institutions:

Ministry of the Environment, other ministries, trade unions, ecological, other organisations and communes and Government administrations.

Major structure/framework used:

Social–Economic–Environmental

Brief description and comments:

A national strategy for sustainable development was adopted in 1999 (*Plan National pour un Développement durable*). The strategy is based on three principles of equal importance: *i*) economic efficiency; *ii*) social solidarity; and *iii*) protection of the environment.

An independent committee has been established to implement the strategy. A SD task force will review the strategy every 3 years.

Within the strategy a list of indicators to measure effectiveness has been developed. These indicators are based on the UNCSD list of indicators, but adapted to the conditions, activities, and priorities of Luxembourg (Eurostat 2002). The set includes a total of 59 indicators (18 social, 22 economic and 19 environmental).

Literature references and web-links:

*Plan National pour un Développement durable* (<http://www.mev.etat.lu/devdur/brodev24p.pdf>)  
<http://www.mev.etat.lu/>

Eurostat (2002),

*EU Member State Experiences with Sustainable Development Indicators*. A revised 1<sup>st</sup> Interim Report to Eurostat. Prepared by ECOTEC Research and Consulting Limited (<http://www.ecotec.com/>).

SDI/TF/006/04(2002)EN. Paper presented at the first meeting of the ESS Task Force on Methodological Issues for Sustainable Development Indicators, Luxembourg, 11–12 April.

***Mexico***

Name of indicator set or project:

*Indicadores de Desarrollo Sustentable en México* (Sustainable development indicators for Mexico)

Participating institutions:



El Instituto Nacional de Estadística, Geografía e Informática (INEGI) y el Instituto Nacional de Ecología (INE), órgano desconcentrado de la Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT).

Major structure/framework used:

Four categories: Social–Economic–Environmental–Institutional.

Brief description and comments:

Mexico was an official test nation for the UNCSD SDIs. <http://www.un.org/esa/sustdev/indi4mx.htm> (UN web-address to the Mexican report). A total of 113 of the 134 UN defined indicators have been quantified.

Literature references and web-links:

Indicadores de Desarrollo Sustentable en México  
(<http://dgcnesyp.inegi.gob.mx/pubcoy/indesmex/indesmex.html>)

### *Netherlands*

Name of indicator set or project:

*Indicators of sustainable development for the Netherlands*

Participating institutions:

The set was developed by government and government related institutions (planning agencies).

Major structure/framework used:

Indicators along two axis:

1. Socio-cultural; financial-economic; and ecological-environmental
2. Time and geography (Here and now – Here and later – Elsewhere, now and later)

Brief description and comments:

The indicator set as developed at the end of 2001 is a first attempt by the Dutch government to develop a complete set of indicators for sustainable development including the economic, the social and the ecological dimension. It focuses on themes important for future generations and on the influence that exports, imports, financial flows, etc. have on other countries.

Work on a more integrated set of indicators has started. More organisations and people are involved in the development of this set.

The NSSD (National Strategy on Sustainable Development) project was hosted by the Ministry for Housing, Spatial Planning and the Environment. During the development of the Dutch National Strategy, the European Union Strategy for Sustainable Development was taken into close consideration. Municipalities, non-governmental organisations, youth organisations as well as the business community were invited to contribute to the preparation and formulation of the NSSD.

Literature references and web-links:

Ministry for Housing, Spatial Planning and the Environment (2002),  
*Nationale Strategie voor Duurzame Ontwikkeling* (National Strategy for Sustainable Development):  
Verkenning van het Rijksoverheidsbeleid, Den Haag, January. VROM01.0768/03 - 02 16825/184.

The strategy report includes the sustainable development indicators in an annex (the indicators will be available in an English version soon).

Information about the national strategy for sustainable development can be found on: [www.nsdo.nl](http://www.nsdo.nl)

### *New Zealand*

#### Participating institutions:

Ministry of the Environment, New Zealand

#### Brief description and comments:

NZ Sustainable Development Strategy (<http://www.mfe.govt.nz/new/pages/questions.html>)

No sustainable development indicators were identified.

Quote from the web-site: *"Over the next year work will be undertaken on the elements of a strategy. It will include:*

- *a framework for implementing the strategy through its application to specific policy programmes, such as regional development*
- *adoption of a programme to measure progress towards the attainment of New Zealand's sustainable development goals*
- *communicating with New Zealanders about progress using "headline" sustainable development indicators which draw on social, economic and environmental information*
- *a single web-based information clearing house to assist in understanding and implementing the strategy*
- *trial and testing Triple Bottom Line Reporting within government at a central and local level and in businesses, as a step towards measuring and assuring the contribution of different parts of society to the achievement of sustainable development goals*
- *as part of the preparations for the World Summit, a stocktaking of New Zealand's performance against the 40 chapters of Agenda 21. This work will underpin the strategy, providing us with a snapshot of where we are today, an indication of gaps in our performance and priorities for the next decade*

*Other significant initiatives that underpin the government's overall approach to sustainable development are:*

- *the waste minimisation and management strategy*
- *the energy conservation and efficiency strategy*
- *the biodiversity strategy*
- *the oceans strategy"*

Co-operation with Australia concerning sustainable development indicators through ANZECC (Australian and New Zealand Environment and Conservation Council).

#### Literature references and web-links:

Environmental Performance Indicators (<http://www.environment.govt.nz/>)

### *Norway*

#### Participating institutions:

The Ministry of Foreign Affairs is leading a working group with participation from various ministries.

Brief description and comments:

Norway is developing a national strategy for sustainable development, which aims to be ready for the World Summit in Johannesburg 2002.

Neither a strategy for sustainable development nor a set of sustainable development indicators have so far been given priority in Norway. Focus has been on environmental policies, establishing priority areas, and the development of key figures (indicators) to measure achievements in relation to the environmental goals that have been established. A better integrated monitoring and reporting system and so-called sectoral action plans (developed by each of the Ministries) are important parts of this new effort to clarify the responsibilities of the different sectors.

Literature references and web-links:

Ministry of the Environment (2000),

*The Government's Environmental Policy and the State of the Environment*. Summary in English of Report No.8 to the Storting (1999–2000). Electronic edition:

<http://odin.dep.no/md/engelsk/publ/stmeld/022051-040012/index-dok000-b-n-a.html>

Ministry of the Environment (2001),

*The Government's Environmental Policy and the State of the Environment*. Summary in English of Report No.24 to the Storting (2000–2001). Electronic edition:

<http://odin.dep.no/md/engelsk/publ/stmeld/022001-040011/index-dok000-b-n-a.html>

Strategy for sustainable development (in Norwegian):

<http://odin.dep.no/ud/norsk/bistand/p10003047/032121-220002/index-dok000-b-n-a.html>

Environmental policies and indicators: <http://www.miljo.no/> (English version available).

## ***Poland***

Brief description and comments:

No strategy or indicators for sustainable development found on the Polish Ministry of the Environment's English web-site: <http://www.mos.gov.pl/>

## ***Portugal***

Name of indicator set or project:

Proposta para um Sistema de Indicadores de Desenvolvimento Sustentável (Proposal for a System of sustainable development indicators).

Participating institutions:

Responsible for the report: Institute for Environment (Instituto do Ambiente) and Direcção de Serviços de Informação e Acreditação.

Several other institutions have also participated in the development of the SD indicators.

Major structure/framework used:

The indicators are structured according to the environmental, economic, social, institutional aspects, and placed within the P-S-R-framework.

Brief description and comments:

132 indicators, partially quantified.

Literature references and web-links:

Instituto do Ambiente and Direcção de Serviços de Informação e Acreditação (2000),  
*Proposta para um Sistema de Indicadores de Desenvolvimento Sustentável.*  
<http://195.22.0.189/sids/index.html>

Web-address for the Institute for Environment (Instituto do Ambiente) : <http://www.iambiente.pt>

***Slovak Republic***Brief description and comments:

A *National Strategy of Sustainable Development* (NSSD) was approved by the Slovak Government October 10, 2001, Resolution No. 978. It will be discussed in the Parliament March 2002.

The *Government Council for Sustainable Development* (established in 1999) deals with Agenda 21 implementation and evaluation. The Council is composed by representatives of representatives of state administration oriented towards economic, social and environmental development, and a further 8 regional offices representatives, personalities of science and social life and citizens associations.

A sustainable development indicator set has not yet been developed.

Literature references and web-links:

Ministry of Environment, Department Environmental Conceptions and Planning (personal communication)  
 Web-site of the Slovak Environmental Agency's (<http://www.sazp.sk/>)  
 Web-site of the Ministry of Environment (<http://www.lifeenv.gov.sk/>)  
 Web-site of the Regional Environmental Centre for central and Eastern Europe, country office of Slovakia (<http://www.rec.sk/>)

***Spain***Participating institutions:

Spanish Ministry of the Environment.

Brief description and comments:

The Spanish Environmental Sustainable Development Strategy is currently being drafted.

The need for a SD-Indicator set to follow up the SD Strategy is recognised, and initial work has started.

See also: *Blue Plan Indicators*, Mediterranean Commission on Sustainable Development.

Literature references and web-links:

Spanish Ministry of Environment (2001),  
 Paper prepared for the roundtable presentation of activities in Member countries. OECD Working Group on Environmental Information and Outlooks, 31<sup>st</sup> Meeting, October 17–19, Paris.  
[http://www1.oecd.org/env/soeg/docs/esp\\_2001.pdf](http://www1.oecd.org/env/soeg/docs/esp_2001.pdf)

## ***Sweden***

### Name of indicator set or project:

*Sustainable Development Indicators for Sweden*

A first set was published in 2001

### Participating institutions:

Ministry of the Environment, Statistics Sweden, Swedish Environmental Protection Agency

### Major structure/framework used:

- Efficiency
- Contribution and equality
- Adaptability
- Values and resources for coming generations

Within these themes, the indicators encompass economic, environmental and social dimensions.

### Brief description:

A large number of additional indicators were discussed during the development phase of this first report (see <http://www.scb.se/omsch/eu/miljoeu9a.asp> - *Ekonomiska*). These indicators were grouped according to three major themes: economic, social and environmental.

Links between indicators are indicated ("see also indicators"), and a cross-reference matrix has been developed. No aggregation or weighting of indicators is performed.

A national Swedish strategy for sustainable development has been established in Spring 2002.

### Literature references and web-links:

Statistics Sweden and Swedish Environmental Protection Agency (2001),

*Sustainable Development Indicators for Sweden – a first set 2001*.

English report (pdf-file) available at: <http://www.scb.se/eng/omsch/eu/Preface1-52.pdf>

## ***Switzerland***

### Name of indicator set or project:

*MONET – Monitoring of sustainable development*

### Participating institutions:

Swiss Federal Statistical Office (SFSO), the Swiss Agency for Spatial Development (ARE) and Swiss Agency for the Environment (SAEFL).

### Major structure/framework used:

A combination of a topic-oriented and a process-oriented approach (indicator grid). The model developed for the project is based on a stock-flow model.

The types of indicators adopted are:

- Level (degree to which needs are met)

- Capital (status and potential of resources)
- Input-Output (use and influence of capital)
- Shape (efficiency, disparities)
- Response (social and political measures)

For all the topics identified (in MONET a list of 26 topics has been defined) specific indicators of the types listed above are to be determined.

Brief description and comments:

Switzerland was affiliated with the testing process of the UNCSD SDIs. The testing of the UNCSD indicator system in Switzerland (SFSO and SAEFL 2000) demonstrated the need to develop a specific national system. This applied both to the selection of topics and specific indicators, and to the methodology, framework or indicator typology.

The stock-flow model adopted has similarities with the D-P-S-I-R-model. However, it is not tailored specifically for the requirements of environmental applications, and can also be applied to social and economic purposes.

A set of about 150 indicators has been developed. Data for 110 of these indicators are readily available. Data for the additional 40 indicators are expected to be available in a few years (4–5 years).

The set is not yet officially approved, and is consequently not cited in this report. The set is expected to be available on the Internet by May 2002.

Literature references and web-links:

SFSO and SAEFL (2000),

“Sustainable Development in Switzerland. Factors for an indicator system. A pilot study based on the methodology of the United Nations Commission on Sustainable Development”, Swiss Federal Statistical Office and Swiss Agency for the Environment, Forests and Landscape. SFSO, Neuchâtel.

[http://www.statistik.admin.ch/stat\\_ch/ber02/dev\\_dur\\_e\\_files/indicators.htm](http://www.statistik.admin.ch/stat_ch/ber02/dev_dur_e_files/indicators.htm)

Website where English version reports can be found and downloaded as pdf-files:

[http://www.statistik.admin.ch/stat\\_ch/ber02/dev\\_dur\\_e\\_files/eueb02.htm](http://www.statistik.admin.ch/stat_ch/ber02/dev_dur_e_files/eueb02.htm)

SFSO (2001),

*MONET evaluates sustainable development in Switzerland*. Paper prepared for the roundtable presentation of activities in Member countries. OECD Working Group on Environmental Information and Outlooks, 31<sup>st</sup> Meeting, October 17–19, Paris.

[http://www.statistik.admin.ch/stat\\_ch/ber02/dev\\_dur\\_e\\_files/eufr02.htm](http://www.statistik.admin.ch/stat_ch/ber02/dev_dur_e_files/eufr02.htm)

## ***Turkey***

Brief description and comments:

No national set of sustainable development indicators has been identified.

See also: *Blue Plan Indicators*, Mediterranean Commission on Sustainable Development.

## ***United Kingdom***

Name of indicator set or project:

A. *Indicators of Sustainable Development for the United Kingdom*

Participating institutions:

Department of the Environment. The indicators set is produced by an interdepartmental Working Group.

Major structure/framework used:

The framework underlying the indicators are four broad aims for sustainable development:

- a healthy economy should be maintained to promote quality of life while at the same time protecting human health and the environment in the UK and overseas, with all participants in all sectors paying the full social and environmental costs of their decisions;
- non-renewable resources should be used optimally;
- renewable resources should be used sustainably;
- damage to the carrying capacity of the environment and the risk to human health and biodiversity from the effects of economic activity should be minimised.

For each of these aims, issues and key objectives are identified in the *UK Sustainable Development Strategy*, and key indicators developed.

The underlying model is discussed in Department of the Environment (1996), and described as a modified P-S-R model: Economy (economic sectors) – Environment – Actors.

Brief description and comments:

The set is rather extensive, containing 118 indicators.

The set of indicators is preliminary, for discussion and consultation. The production of this set follows the commitments in the U.K. Strategy for Sustainable Development, published in 1994 (Department of the Environment 1994), and aims to monitor progress towards the objectives set out in the strategy. The indicators will also help to fulfil the international obligations of the United Kingdom, in terms of reporting to the UN Commission on Sustainable Development.

Links between indicators and issues are presented in an appendix table ("Analysis of indicators by cross-cutting issues"). No aggregation or weighting of indicators is done.

This indicator set was reviewed and revised, in particular to cover more thoroughly the social, economic and international dimensions of sustainable development.

The United Kingdom was an official test nation for the UNCSD SDIs.

<http://www.un.org/esa/sustdev/indi4gb.htm> (UN web-address to the UK report)

Literature references and web-links:

Department of the Environment (1994),

*Sustainable Development: The U.K. Strategy*. Cm2426. HMSO: London.

Department of the Environment (1996),

*Indicators of Sustainable Development for the United Kingdom*. HMSO: London. <http://www.sustainable-development.gov.uk/>

Name of indicator set or project:

*B. Headline indicators in the UK sustainable development strategy. Core set of indicators of sustainable development.*

Participating institutions:

Department of the Environment, Transport and the Regions (DETR)

Major structure/framework used:

Two sets of indicators are presented. The main objective of the “headline” indicators is assess overall progress and priorities in terms of

- Maintaining high and stable levels of economic growth and employment;
- Social progress which recognises the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources.

The aim of the “core set” of indicators is to monitor progress on the following objectives (or themes and sub-themes):

Sustainable economy

- Doing more or less; improving resource efficiency
- Economic stability and competitiveness;
- Developing skills and rewarding work;
- Sustainable production and consumption.

Building sustainable communities

- Promoting economic vitality and employment;
- Better health for all;
- Travel;
- Access;
- Shaping our surroundings;
- Involvement and stronger institutions.

Managing the environment and resources

- An integrated approach;
- Climate change and energy supply
- Air and atmosphere;
- Freshwater;
- Seas, oceans and coasts;
- Landscape and wildlife.

Sending the right signals

International co-operation and development.

Brief description and comments:

a) The 15 headline indicators are intended to focus attention on what sustainable development means, and to give a broad overview of overall progress and priorities. These indicators — which are described as a "Quality of life barometer" — are considered a powerful tool for simplifying and communicating messages to the public. They are developed at both the national and regional level.

b) The 150 indicators that are included in the core set will be central to monitoring and reporting on progress, and cover the social, economic and environmental dimensions of sustainable development.



Both the headline and core set of indicators have been developed to measure and monitor progress relative to objectives in the U.K. strategy for sustainable development. A baseline assessment table, based on the headline indicators, has been developed. No aggregation or weighting of the indicators is done. Links between indicators are to some degree indicated.

Literature references and web-links:

Department of the Environment, Transport and the Regions (1999),  
*A better quality of life: a strategy for sustainable development in the United Kingdom*, TSO, London.

Department of the Environment, Transport and the Regions (1999),  
*Quality of life counts. Indicators for a strategy for sustainable development for the United Kingdom: a baseline assessment*, Government Statistical Service, London.

Department of the Environment, Transport and the Regions (2000a),  
*Regional quality of life counts. Regional versions of the national "headline" indicators of sustainable development*. DETR, London.

Department of the Environment, Transport and the Regions (2001),  
*Achieving a better quality of life. Review of progress towards sustainable development. Government annual report 2000*, DETR, London. <http://www.sustainable-development.gov.uk/>

Name of indicator set or project:

C. *Local quality of life counts.*

A handbook for a menu of local indicators of sustainable development.

Participating institutions:

DETR, LGA (Local Government Association), IdeA (Improvement and development agency), Audit Commission, local authorities and Local Agenda 21 groups.

Major structure/framework used:

Characteristics of a sustainable society:

- Protect and enhance the environment (Environmental indicators; 8)
- Meet social needs (Social indicators; 16)
- Promote Economic success (Economic indicators; 5)

Brief description and comments:

The 29 indicators covered include some of the 15 "headline" indicators, as well as a number of indicators developed by local authorities and Local Agenda 21 groups.

Literature references and web-links:

Department of the Environment, Transport and the Regions (2000b),  
*Local quality of life counts. A handbook for a menu of local indicators of sustainable development*. DETR, London.

<http://www.sustainable-development.gov.uk/indicators/local/index.htm>  
or <http://www.la21~uk.org.uk/>

***United States***Name of indicator set or project:

*Sustainable development in the United States.*

An experimental set of indicators.

Participating institutions:

U.S. Interagency Working Group on Sustainable Development Indicators with representatives from: Department of Agriculture, Department of Commerce, Department of Education, Department of Energy, Department of Housing and Urban Development, Department of the Interior, Department of Justice and the Environmental Protection Agency.

Liaisons with: Council of Environmental Quality, Office of Science and Technology Policy, U.S. Global Change Research Program. Other participants: Department of Health and Human Services, Department of Labor, Department of State, Department of Transportation, Department of Treasury, National Aeronautics and Space Administration, National Endowment for the Arts, National Science Foundation and President's Council on Sustainable Development.

Major structure/framework used:

Economy-Environment-Society

Brief description and comments:

The set contains a total of 40 indicators. The set is described as experimental.

The indicator set is structured in two ways: *i*) by the three categories “economic”, “environmental” and “social” indicators, and *ii*) by the categories “long-term endowments and liabilities”, “processes” and “currents results”. The first categorisation is “traditional”; the second one is supposed to “...*focus our attention on the need to take a long-term view*”. The SDI-framework is building on the P-S-R-model — with indicators for “long-term endowments and liabilities” and “current results” defining the “state” category.

No aggregation or weighting of the indicators is done. A summary table showing the number of indicators in the different categories that have trends indicating favourable, unfavourable and uncertain impacts is presented. No links between the indicators are indicated (e.g. “see also...”).

In the indicator report, it is stated that the set is not a complete assessment of the United States’ progress towards sustainable development, nor is it a recommended set of indicators for the Nation. It is described as a first look at some of the factors that may be important, and the purpose is to encourage national dialogue that will ultimately result in a set of national indicators of sustainable development.

Literature references and web-links:

U.S. Interagency Working Group on Sustainable Development Indicators (1998), *Sustainable Development in the United States. An Experimental Set of Indicators*. A Progress Report Prepared by the U.S. Interagency Working Group on Sustainable Development Indicators, Washington DC.

Appendix table 1. Country Summary Table

Country	Name of indicator set or project	Participating institutions	Major structure/framework used
Australia	Headline sustainability indicators.  No. of indicators: 24 (+4)	Commonwealth Government and ANZECC (Australian and New Zealand Environment and Conservation Council). Australian Bureau of Statistics.	Core objectives of the national strategy: <ul style="list-style-type: none"> <li>Well-being and welfare; individual, community, future generations</li> <li>Equity within and between generations</li> <li>Protection of biodiversity and maintenance of ecological processes and life-support systems</li> </ul>
	Measuring Australia's Progress.  No. of indicators: 14	Australian Bureau of Statistics.	<p><b>Economic</b></p> <ul style="list-style-type: none"> <li>National income</li> <li>National wealth</li> </ul> <p><b>Environmental</b></p> <ul style="list-style-type: none"> <li>Air quality</li> <li>Greenhouse gases</li> <li>Land</li> <li>Water</li> <li>Wildlife</li> </ul> <p><b>Social</b></p> <ul style="list-style-type: none"> <li>Crime</li> <li>Education</li> <li>Health</li> <li>Income</li> <li>Social attachment</li> <li>Work</li> </ul>
Austria	Testing of UNCSD-set		
Belgium	Testing of UNCSD-set	Belgian Federal council for sustainable development (advisory body).	
Canada	Affiliated with the process of testing the UNCSD-set		
	National Round Table on the Environment and the Economy	NRTEE, Environment Canada, Statistics Canada.	Indicator set under development. Capital approach
Czech Republic	Testing of UNCSD-set		
Denmark	Set of indicators associated with the Danish national strategy for sustainable development a) Headline indicators (15) b) Detailed set of indicators (102)	Danish Government.	a) The eight goals and principles of the SD strategy b) The 15 priority areas of the SD strategy.
Finland	Testing of UNCSD-set		
	National sustainable development indicators for Finland.  No. of indicators: 83	Ministry of Environment, Finnish Environment Institute, and working group (Indicator network). See further details in the description of this set.	<ul style="list-style-type: none"> <li>Ecological</li> <li>Economic</li> <li>Socio-cultural</li> </ul> <p>20 entities or key areas for these categories were identified. Indicators for these entities were developed.</p>

Country	Name of indicator set or project	Participating institutions	Major structure/framework used
France	Testing of UNCSD-set Les indicateurs de développement durable (Indicators of sustainable development) No. of indicators: 307	Ministry of Spatial Planning and Environment (MSPE) and the French Institute for the Environment (IFEN).	Five main axes, characterising sustainability. Nine modules: 1. A balanced growth, generating more employment and productivity and less externalities (module 1). 2. Specific attention to the maintenance and re-establishment of critical stocks, including human and institutional capital (modules 2 and 3). 3. Good articulation between the local and global level (modules 4 and 5). 4. Meeting needs of current generations through reductions of inequalities (objective condition) and dissatisfactions (subjective condition, modules 6 and 7). 5. Consideration of the needs of future generations through the application of the precautionary principle in resource management, and the adaptation to unforeseeable events (capacity to absorb breaks and crises, modules 8 and 9).
Germany	Testing of UNCSD-set Indicator system on Sustainable Development in Germany	The Federal Environmental Agency, Interministerial task force under the leadership of the Ministry of the Environment, Nuclear Safety and Nature Protection.	Sustainability egg. N-A-P-S-I-R
Greece	<i>No national SD indicator set established</i>		
Hungary	<i>No national SD indicator set established</i>		
Iceland	National SD indicator set under development		
Ireland	National set of headline indicators for sustainable development	Co-ordinated by the Department of the Environment and Local Government. COMHAR – The National Sustainable Development Partnership.	Unknown
Italy	<i>No national SD indicator set established</i>		
Japan	<i>No national SD indicator set established</i>		
Korea	Korean Sustainable Development Indicators 53 indicators (in addition 12 sub-indicators)	Korean Ministry of Environment, Korean Environment Institute, Eco Frontier Co.	Theme and Sub-theme Framework (see also UNCSD)
Luxembourg	Indicator set within the national SD strategy. No. of indicators: 59	Ministry of the Environment, other ministries, trade unions, ecological and other organisations and communes and Government administrations.	Social–Economic–Environmental (based on UNCSD set, but adapted to national conditions and priorities)
Mexico	Testing of UNCSD-set	El Instituto Nacional de Estadística, Geografía e Informática (INEGI) y el Instituto Nacional de Ecología (INE), órgano desconcentrado de la Secretaría de Medio Ambiente, Recursos Naturales	

Country	Name of indicator set or project	Participating institutions	Major structure/framework used
		y Pesca (Semarnap).	
Netherlands	Indicators of sustainable development for the Netherlands  No. of indicators: 35	The indicators set was developed by government and government related institutions (planning agencies).	Indicators along two dimensions:  1. Socio-economic-environmental  2. Time and geography
New Zealand	<i>No national SD indicator set established</i>	Cooperation with Australia through ANZECC (Australian and New Zealand Environment and Conservation Council).	
Norway	<i>No national SD indicator set established</i>	Ministry of Foreign Affairs, with participating ministries.	
Poland	<i>No national SD indicator set established</i>		
Portugal	Proposal for a system of sustainable development indicators No. of indicators: 132	General Directorate of Environment (Direcção Geral do Ambiente) and Direcção de Serviços de Informação e Acreditação.	Economic-Social-Environmental-Institutional. P-S-R
Slovak Republic	<i>No national SD indicator set established</i>		
Spain	<i>No national SD indicator set established</i>		
Sweden	Sustainable Development Indicators for Sweden - a first set 2001 No. of indicators: 30	Ministry of the Environment, Statistics Sweden, Swedish Environmental Protection Agency.	<ul style="list-style-type: none"> <li>• Efficiency</li> <li>• Contribution and equality</li> <li>• Adaptability</li> <li>• Values and resources for coming generations</li> </ul>
Switzerland	Affiliated with the process of testing the UNCSD-set		
	MONET (Monitoring of Sustainable Development)  No. of indicators: 150	The Swiss Federal Statistical Office (SFSO), the Swiss Agency for Spatial Development (ARE) and the Swiss Federal Agency for the Environment, Forests and Landscape (SAEFL).	Topic and process-oriented approach (indicator grid). 26 topics where the indicators are arranged according to 5 types of indicators (processes): Level, Capital, Input-Output, Shape and Response. Stock-flow model.
Turkey	<i>No national SD indicator set established</i>		
United Kingdom	Testing of UNCSD-set		
	Indicators of Sustainable Development for the United Kingdom No. of indicators: 118	Department of the Environment and an interdepartmental Working Group.	Modified P-S-R: Economy-Environment-Actors.
	Headline indicators in the UK sustainable development strategy No. of indicators: 15	Department of the Environment, Transport and the Regions (DETR).	Economic, Social and Environmental issues. Themes
	Core set of indicators of sustainable development No. of indicators: 150	DETR	Economic, Social and Environmental issues. Themes
	Local quality of life counts. A handbook for a menu of local indicators of sustainable development. No. of indicators: 29	DETR, LGA (Local Government Association), IdeA (Improvement and development agency), Audit Commission, local Authorities and Local Agenda 21 groups.	Economic, Social and Environmental issues. Themes
United States	Affiliated with the process of testing the UNCSD-set		

Country	Name of indicator set or project	Participating institutions	Major structure/framework used
	Sustainable Development in the United States. An experimental set of indicators.  No. of indicators: 40	U.S. Interagency Working Group on Sustainable Development Indicators.  President's council on sustainable development (Clinton administration).	<b>Long term endowments and liabilities</b> <ul style="list-style-type: none"> <li>▪ The Economy</li> <li>▪ The Environment</li> <li>▪ The Society</li> </ul> <b>Processes</b> <ul style="list-style-type: none"> <li>▪ The Economy</li> <li>▪ The Environment</li> <li>▪ The Society</li> </ul> <b>Current results</b> <ul style="list-style-type: none"> <li>▪ The Economy</li> <li>▪ The Environment</li> <li>▪ The Society</li> </ul>

### *International institutions*

#### *European Commission/Eurostat*

Name of indicator set or project:

A. *Indicators of Sustainable Development. Test of UN set*

(see also United Nations – UNCSO).

Major structure/framework used:

See United Nations – UNCSO.

Brief description and comments:

A pilot study which sought to apply the indicators of the United Nations "Blue Book" to the European Union. The criteria applied in selecting the indicators were "availability" of data in a sufficient number of European Union Member States; and "relevance" in the European context. A total of 46 indicators of the 132 "Blue Book" indicators were quantified and presented. The problems encountered by Eurostat in selecting indicators from the UNCSO set are summarised as follows:

- Relevance of the statistical data in the world context;
- Problems in analysing statistical data due to different policies implemented by the EU Member States;
- Comparability and uniformity of EU statistical data;
- Accessibility of EU statistical data.

Literature references and web-links:

Eurostat (1997),

*Indicators of Sustainable Development. A pilot study following the methodology of the United Nations Commission on Sustainable Development.* Statistical Office of the European Communities, Luxembourg.

Name of indicator set or project:

B. *Measuring progress towards a more sustainable Europe*

Major structure/framework used:

The four basic dimensions of the UNCSO framework: *i)* social; *ii)* economic; *iii)* environmental; *iv)* institutional. Indicators are further presented by theme / sub-theme.

Brief description and comments:

A set of indicators adapted to the situation in the EU, based on the UNCSO proposals for a core set of sustainable development indicators (see below). Includes a total of 63 indicators.

Literature references and web-links:

European Commission (2001a),

*Measuring progress towards a more sustainable Europe – Proposed indicators for sustainable development. Data 1980–99.* Commission of the European Communities and Eurostat. Luxembourg: Office for Official Publications of the European Communities.

Name of indicator set or project:C. *Structural indicators*Major structure/framework used:

Five main domains:

- Employment
- Innovation and research
- Economic reform
- Social cohesion
- Environment

In addition a separate theme "General Economic Background".

Brief description and comments:

A first set of indicators was adopted in 2000 as a response to strategic goals set out in the "Strategy of change"). These indicators, which mainly concern the economy and social cohesion, were agreed upon at the Lisbon Special European Council (March 2000). In 2001, indicators for the environment were included following the adoption of the EU Strategy for sustainable development at the Gothenburg European Council in June 2001 (European Commission 2001c). Indicators to measure progress in implementing this strategy would be incorporated in the annual synthesis report from the Commission.

Environmental goals of the sustainable development strategy that included the structural indicator set refer to:

- Combating climate change
- Ensuring sustainable transport
- Addressing threats to public health
- Managing natural resources more responsibly.

At present the set includes 42 indicator themes (including the indicators for "general economic background").<sup>20</sup> The structural indicators will be used to "assess our progress and focus our activity".

The strategy for sustainable development provides an umbrella for a number of linked and mutually supportive policies on the EU-level, such as the "6<sup>th</sup> Environmental Action Programme", the "Cardiff process" for integration of environment in sector and other policies, and the "Lisbon process" on employment, economic reform and social cohesion.

These structural indicators are one part (tools for reporting on progress and assessments) of the "three corridors model" to follow progress in sustainable development. The other parts are the sectoral integration indicators and the environmental issue indicators.

Literature references and web-links:

European Commission (2001b),

Communication from the Commission. *Structural indicators*. Commission of the European Communities, Brussels, COM(2001) 619 final. <http://europa.eu.int/comm/eurostat/Public/datashop/print-product/EN?catalogue=Eurostat&product=1-structur-EN&mode=download>

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20. The theme "Municipal Waste" includes the indicators for "municipal waste collected", "municipal waste landfilled" and "municipal waste incinerated".



European Commission (2001c),  
Communication from the Commission. *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*. (Commission's proposal to the Gothenburg European Council). Commission of the European Communities, Brussels, COM(2001) 264 final.

EEA (2001a),  
*The European Environment Agency focuses on EU-policy in its approach to sustainable development indicators*. Working paper no. 5. Paper submitted by the European Environment Agency to the Joint ECE/Eurostat Work Session on Methodological Issues of Environment Statistics, Ottawa, Canada, 1–4 October, <http://www.unece.org/stats/documents/2001/10/env/wp.5.e.pdf>

Jiménez-Beltrán, D. (2001),  
*Implementing the EU Sustainable Development Strategy. Making sustainability accountable: the role and feasibility of indicators. From Gothenburg to Barcelona*. Speech by Executive Director of the European Environment Agency held at Brussels, 9 July, <http://org.eea.eu.int/PR/Speeches/>

### ***Nordic Council of Ministers***

#### Name of indicator set or project:

No SD indicator set is yet established, but a Nordic group is at present developing a Nordic set of sustainable development indicators.

#### Brief description and comments:

In November 1998, a “Declaration on a sustainable Nordic Region” was adopted by the Nordic Prime Ministers and the political heads of the self-governing areas (Faeroe Islands, Greenland and the Åland Islands). In this declaration the Nordic Council of Ministers was assigned the task of preparing a cross-sectoral strategy for sustainable development.

The strategy “Sustainable Development – New Bearings for the Nordic Countries” came into force at the end of 2001. The strategy provides the overall framework for Nordic sub-strategies and action plans.

#### Literature references and web-links:

[http://www.norden.org/miljoe/sk/bu\\_strategi.asp?lang=6](http://www.norden.org/miljoe/sk/bu_strategi.asp?lang=6)

### ***UNEP-Mediterranean Action Plan (MAP), Mediterranean Commission on Sustainable Development (MCSD)***

#### Name of indicator set or project:

*Blue Plan Indicators*

(indicators for sustainable development in the Mediterranean Region)

#### Major structure/framework used:

The indicators are arranged according to themes and the PSR-framework. The six major categories are:

- Population and society
- Lands and areas
- Economic activity and sustainability
- Environment
- The sustainable development: Actors and policies

- Exchanges and co-operation in the Mediterranean

Brief description and comments:

Participating countries: Albania, Algeria, Bosnia Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia and Turkey.

Establishment of a common set of 130 environment and development indicators. An important basis for selection of indicators was the UNCSD set (UN 1996). These indicators were adopted by the 11th meeting of the Contracting Parties (Malta, November, 1999).

Literature references and web-links:

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

***United Nations***

UN Commission on Sustainable Development

Name of indicator set or project:

A. *Indicators of Sustainable Development. Framework and Methodologies (1996)*

Major structure/framework used:

Four categories: “social”, “economic”, “environmental”, and “institutional”. For each category D–S–R-indicators have been developed (Driving forces, State, Response). All indicators are connected to chapters of Agenda 21.

Brief description and comments:

This publication includes a list (menu) of about 130 indicators, and methodology sheets for each of them. The indicators (a selection of them; relevant to national priorities, goals and targets) are intended for use at the national level by countries in their decision-making processes, and for reporting internationally on sustainable development. This set of indicators was later tested by a number of countries and institutions (see paragraph below and summary table), and feedback were given to the UN. Based on this, further improvements in the indicators and methodology sheets has been implemented.

Short overview of testing of the UNCSD indicator set

The UNCSD indicators were tested in the following countries:

**Appendix Table 2. Testing countries**

Regions	Countries
Africa:	Ghana, Kenya, Morocco, South Africa, Tunisia
Asia and the Pacific:	China, Maldives, Pakistan, Philippines
Europe:	Austria, Belgium, Czech Republic, Finland, France, Germany, United Kingdom
Americas and the Caribbean:	Barbados, Bolivia, Brazil, Costa Rica, Mexico, Venezuela

Source: UN (2001).

A number of other countries (Canada, Nigeria, Switzerland and the United States, among others) were affiliated with the testing process on a voluntary basis. Eurostat (the Statistical Office of the European Union) also prepared a test. All the reports from the testing countries are available at <http://www.un.org/esa/sustdev/isd.htm>.

The table below presents a summary of the selection of indicators used by countries during the testing programme:

**Appendix Table 3. Selection of indicators**

Indicators frequently used	Indicators used by only one country	New indicators suggested by countries
Unemployment rate	R&D expenditure for biotechnology	Incidence of environmentally related disease
Population growth rate	Population growth in coastal areas	% Population with access to health services
GDP per capita	Decentralised natural resource management	Crime rate
Domestic per capita consumption of water	Oil discharges into coastal waters	Incidence of street children
Land use changes	Satellite derived vegetation index	Urban green space
Use of fertilisers	Welfare of mountain population	Ground water pollution
Ratio of threatened species to total native species	Population living below the poverty line in dry-land areas	Ratio of mining area rehabilitated to total mining area
Ambient concentration of urban air pollutants	Human and economic loss due to natural disasters	Area of specific ecosystems
Emissions of greenhouse gases		Ownership of agricultural land
Emissions of sulphur dioxides		Genuine savings ratio
Emissions of nitrogen dioxides		Traffic density
Annual energy consumption		Release of GMOs

Source: UN (2001).

After carefully considering the testing countries' priorities and experiences a new framework and indicator selection was developed (see CSD Core indicators, below). The new set and framework is considered to better satisfy common priorities between national and international issues.

Literature references and web-links:

UN (1996),

*Indicators of Sustainable Development. Framework and Methodologies.* United Nations' Committee on Sustainable Development, New York.

Reports of all the testing countries: <http://www.un.org/esa/sustdev/countries.htm>

Name of indicator set or project:

B. CSD Core indicators

Major structure/framework used:

Four categories: "social", "economic", "environmental", and "institutional". A theme/sub-theme framework (CSD Theme Indicator Framework) has been developed based on country recommendations in national testing of the set/framework described above, and overall orientation to decision-making needs.

*Category Social:* 6 Themes, 12 Sub-themes, 19 indicators.

*Category Environmental:* 5 Themes, 13 Sub-themes, 19 indicators.

*Category Economic:* 2 Themes, 7 Sub-themes, 14 indicators.

*Category Institutional:* 2 Themes, 6 Sub-themes, 6 indicators.

Total: 15 Themes, 38 Sub-themes, 58 indicators.

Direct references to the D-S-R have been discontinued, although it is still possible to categorise the individual indicators according to this framework.

Brief description and comments:

A further development of the UNCSD indicator set (UN 1996) described above. Countries are encouraged to adopt and use this set as a starting point for their national SDI programmes.

Literature references and web-links:

UN (2001),

*Indicators of sustainable development: Guidelines and Methodologies – 2001,*

<http://www.un.org/esa/sustdev/isd.htm>

**Appendix Table 4. International institutions summary table**

Organisation	Name of indicator set	Major structure/framework used
European Commission/Eurostat	Test of UNCSD indicators. No. of indicators: 46	See UN, below
	Measuring progress towards a more sustainable Europe. No. of indicators: 63	See UN, below
	Structural indicators No. of indicators: 42 (March 2002)	<ul style="list-style-type: none"> <li>• General Economic Background Indicators</li> <li>• Employment</li> <li>• Innovation and Research</li> <li>• Economic Reform</li> <li>• Social Cohesion</li> <li>• Environment</li> </ul>
UNEP-MAP, MCSD, Plan Bleu	Indicators for sustainable development in the Mediterranean region. (Blue Plan indicators) No. of indicators: 130	<ul style="list-style-type: none"> <li>• Population and society</li> <li>• Lands and areas</li> <li>• Economic activity and sustainability</li> <li>• Environment</li> <li>• The sustainable development: Actors and policies</li> <li>• Exchanges and co-operation in the Mediterranean</li> </ul>
United Nations	Indicators of sustainable development - framework and methodologies. No. of indicators: 132	<ul style="list-style-type: none"> <li>• Social</li> <li>• Economic</li> <li>• Environment</li> <li>• Institutional</li> </ul> <p>D–S–R indicators for these categories. Indicators related to chapters of Agenda 21.</p>
	CSD - Core indicators. No. of indicators: 58	<p><b>SOCIAL Theme</b></p> <ul style="list-style-type: none"> <li>▪ Equity</li> <li>▪ Health</li> <li>▪ Education</li> <li>▪ Housing</li> <li>▪ Security</li> <li>▪ Population</li> </ul> <p><b>ENVIRONMENTAL Theme</b></p> <ul style="list-style-type: none"> <li>▪ Atmosphere</li> <li>▪ Land</li> <li>▪ Oceans, Seas and Coasts</li> <li>▪ Fresh Water</li> <li>▪ Biodiversity</li> </ul> <p><b>ECONOMIC Theme</b></p> <ul style="list-style-type: none"> <li>▪ Economic structure</li> <li>▪ Consumption and Production patterns</li> </ul> <p><b>INSTITUTIONAL Theme</b></p> <ul style="list-style-type: none"> <li>• Institutional framework</li> <li>• Institutional capacity</li> </ul>
Nordic Council of Ministers	Indicator set under development	

## APPENDIX B. INDICATORS IN REVIEWED SETS

Country	Name of indicator set	List of indicators
Australia	Headline sustainability indicators in Australia	<p><b>To enhance individual and community well-being and welfare .....</b></p> <p>Gross National Income (GNI) per capita</p> <p>Gross per capita disposable income</p> <p>Percentage of people aged 25–64 who have attained upper secondary and/or post secondary level qualifications including vocational training</p> <p>Disability adjusted years life expectancy</p> <p>Number of occasions where concentrations of pollutants exceeded NEPM standards for ambient air quality in major urban areas</p> <p>Total SO<sub>x</sub>, NO<sub>x</sub>, and particulate emissions</p> <p><b>..... by following a path of economic development that safeguards the welfare of future generations</b></p> <p>Multi-factor productivity (Gross product per combined unit of labour and capital)</p> <p>Real GDP per capita</p> <p>(i) National Net Worth, and (ii) National Net Worth per capita</p> <p>(i) Surface water units within 70% of sustainable yield, and (ii) Ground water management units within 70% of sustainable yield</p> <p>Total area of all forest types</p> <p>Percentage of major Commonwealth managed harvested wild fish species classified as fully or under fished</p> <p>(i) Renewable energy as a proportion of total, and (ii) Total renewable and non-renewable energy use</p> <p>Net value of rural land (Interim indicator – Agreed</p>

Country	Name of indicator set	List of indicators
		<p>indicator: "net value of agricultural lands use" not yet available)</p> <p><b>To provide for equity within and between generations</b></p> <p>Adult female full time (ordinary time) average weekly earnings as a proportion of adult full time (ordinary time) average weekly earnings</p> <p>Percentage difference in the year 12 completion rate between bottom and top socio-economic decile</p> <p>(i) Percentage difference in burden of life years lost due to disability between bottom and top socio-economic quintile, and (ii) Percentage difference in burden of life years lost due to mortality between bottom and top socio-economic quintile</p> <p>Percentage difference in the year 12 completion rate between urban and remote locations</p> <p><b>To protect biological diversity and maintain essential ecological processes and life-support</b></p> <p>1. Extent and condition of native vegetation, freshwater habitats, coastal habitats, estuarine habitats and marine habitats including extent to which represented in reserves and non-reserve systems. Actual indicators used:</p> <p>Proportion of (354) bio-geographic sub-regions with greater than 30 per cent of original vegetative cover</p> <p>Proportion of (354) bio-geographic sub-regions with greater than 10 per cent of the sub-region's area in protected areas</p> <p>Number of extinct, endangered and vulnerable species and ecological communities. Actual indicators used:</p> <p>Number of extinct, endangered and vulnerable species</p> <p>Number of endangered ecological communities</p> <p>Total net greenhouse gas emissions</p> <p>Estuarine condition index – proportion of estuaries in near pristine or slightly modified condition</p> <p>Proportion of assessed sites which are with high in-stream biodiversity, based on macro-invertebrate community structure (Interim indicator – Agreed indicator: "river condition index" not yet available)</p> <p>Catchment Condition Index – proportion of assessed</p>

Country	Name of indicator set	List of indicators
		<p style="text-align: center;">catchments that are in moderate or good condition</p> <p><b>Contextual indicators: Population</b>  Total Australian (resident) population  Australian population growth rate  Proportion of the resident population living in urban areas  Proportion of the total resident population who are working age (15–64)</p>
	MAP – Headline Dimensions of Progress and Headline Indicators (preliminary set; quoted from consultation paper, source: ABS (2001a))	<p><b>Economic</b>  National income  Real gross disposable income per capita  Ratio of disposable income of income units at the 90<sup>th</sup> percentile to the 10<sup>th</sup> percentile, or the gini coefficient: (advice sought)  National wealth  Real net national worth per capita</p> <p><b>Environmental</b>  Air quality  Number of days when fine particle concentrations exceed health standards  Greenhouse gases  Greenhouse gas emissions (CO2 equivalents)</p> <p>Land  Annual area of land cleared  Area(s) of land affected by degradation: (advice sought)</p> <p>Water  Quantity of water diverted in the Murray Darling Basin</p> <p>Wildlife  Numbers of extinct and threatened bird and animal species</p> <p><b>Social</b>  Crime  Recorded crime rates (unlawful entry and assault)</p> <p>Education  Proportions of 25–64 year olds with a vocational or higher education qualification</p> <p>Health  Life expectancy at birth</p> <p>Income  Proportion of income units with disposable income below half the median income of all income units: advice sought</p> <p>Social attachment  Advice sought</p> <p>Work  Unemployment and underemployment rates</p>
Denmark <sup>1)</sup>	Set of indicators associated with the Danish national strategy for sustainable development	<p><b>Key indicator set (Headline indicators)</b>  GDP per capita  Environmental pressures from four factors (greenhouse gases, discharges of plant nutrients (N and P) to the sea, and emissions of acidifying substances) in relation to GDP  Genuine savings  Employment by age groups  Life expectancy (males and females)  Emissions of greenhouse gases by sector  Use of hazardous chemicals</p>

Country	Name of indicator set	List of indicators
		<p>Area of different nature types</p> <p>Resource flows for three factors (energy consumption, drinking water consumption, total waste amount) in absolute figures and per unit GDP</p> <p>Development aid as % of GDP</p> <p>Environmental profiles of selected sectors (2 indicators)</p> <p>Number of eco-labelled products</p> <p>Number of governmental institutions that has reported green purchasing policy</p> <p>Number of environmentally approved enterprises</p> <p><b>Detailed indicator set</b></p> <p><b>Forestry</b></p> <p>Indicator of forest area, which is allowed to develop with minimum of human intervention: Natural rejuvenation with species which are native to Denmark</p> <p>Indicator of forests of special environmental concern</p> <p>Visitors in forests</p> <p>Forest area and forest related open areas</p> <p><b>Industry, trade and services</b></p> <p>Number of enterprises with licence for eco-labelled products</p> <p>Number of eco-labelled products</p> <p>Number of EMAS and ISO registered enterprises and their share of the sector's production and/or employment</p> <p>Index of the manufacturing industry's resource efficiency, selected parameters (e.g. energy and water) relative to Gross value added (GVA)</p> <p>Emissions of CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub> relative to gross value added</p> <p>Waste from industries distributed by method of treatment and in relation to gross value added</p> <p><b>Transport</b></p> <p>Average travel distance by activity</p> <p>Average walking distance to nearest bus or train from home and work place, respectively</p> <p>Average speed of buses, trains and cars on selected stretches (index)</p> <p>Traffic work (traffic performance per unit GDP)</p> <p>Passenger transport-work and goods transport-work distributed by forms of transport</p> <p>Emissions of CO<sub>2</sub>, PM<sub>10</sub>, CO, HC, NO<sub>x</sub>, NMVOC and SO<sub>x</sub> from the transport sector</p> <p>Number of killed and seriously injured in traffic distributed by type of transport and per passenger-kilometre</p> <p>Change-over to cleaner fuels (environmental friendly diesel and gasoline, electricity, LPG and other alternative fuels)</p> <p>Average energy-efficiency of passenger transport and goods transport</p> <p>Average capacity utilization and average load of lorries over 6 tonnes</p>



Country	Name of indicator set	List of indicators
		<p>Energy efficiency of new cars</p> <p>Energy</p> <p>CO<sub>2</sub> emissions, and CO<sub>2</sub> emissions relative to energy consumption</p> <p>SO<sub>2</sub> emissions, and SO<sub>2</sub> emissions relative to energy consumption</p> <p>NO<sub>x</sub> emissions, and NO<sub>x</sub> emissions relative to energy consumption</p> <p>Primary energy supply and final energy consumption in PJ, and primary energy supply per unit GVA (Gross value added)</p> <p>Primary energy supply distributed by industry, transport and households, in relation to the sector's activity</p> <p>Dual purpose power plants' shear of thermal electricity production</p> <p>Parts of total energy consumption, heat consumption and electricity consumption covered by renewable energy</p> <p>Town and residential development</p> <p>Area of urban zones</p> <p>Part of new office buildings in the capital area located less than 500 meters from a suburban electric train station.</p> <p>Dwellings and working places: Part locally employed in selected larger and smaller urban settlements</p> <p>Share of total number of residences that has district heating and own bath and toilet</p> <p>Square metre green area that is accessible within a walking distance of 15 minutes. Per inhabitant. Cities of Odense, Aalborg and Copenhagen</p> <p>Energy use for space heating in urban areas</p> <p>Trends in energy consumption, water consumption and waste amounts in dwellings/households (index)</p> <p>Tourism</p> <p>Number of municipalities where the number of tourists exceeds the local population in the peak season</p> <p>Percentage of the area of Denmark included in Destination 21 and number of municipalities included in Destination 21</p> <p>Number/per cent of tourist establishments that take part in environment labelling initiatives (i.e. Green Keys or Destination 21)</p> <p>Number of "Blue Flag" beaches</p> <p>Forms of transport used by Danes during holidays (domestic and abroad)</p> <p>Climate change</p> <p>Concentration of greenhouse gases in the atmosphere</p> <p>Average temperature. Global and in Denmark</p> <p>Effects of climate change in Denmark, expressed by the starting of the pollen season</p> <p>CO<sub>2</sub> emissions per capita. The world and in a number of regions and countries including Denmark</p> <p>Gross emissions of greenhouse gases. In CO<sub>2</sub> equivalents and specified for the different greenhouse gases</p>

Country	Name of indicator set	List of indicators
		<p>CO<sub>2</sub> sinks (uptake)  Gross emissions of greenhouse gases per unit GDP  Net emissions of greenhouse gases in CO<sub>2</sub> equivalents  Gross emissions of greenhouse gases distributed by sector</p> <p>Biodiversity, protection of the environment and access to nature  Area of nature types  Protection status of species and nature types  Red-listed species groups in Denmark  Giving priority to priority areas of nature management  Danish water course fauna index (rivers) and Secchi-depth (lakes)  Exceedances of critical loads for ammonia and nitrogen oxides  Discharges of nitrogen and phosphorus to the ocean  Km of tracks for walking, cycle paths and riding tracks  Area of recreational nature areas within 15 minutes of cycling, walking and motoring</p> <p>Environment and health – chemicals, pollution, food, working place and indoor environment)  Occurrence of asthma, allergies and hypersensitivity sufferings  Number of chemicals that are classified or controlled  Amount of pesticides classified as especially harmful  Emissions of SO<sub>2</sub>, NO<sub>x</sub>, VOC and NH<sub>3</sub>  Thickness of the ozone layer  Number of localities that have been treated for soil pollution in order to secure residential use and/or drinking water supply.  Number of exceedances of quality limit values for drinking water  Bathing localities where the water quality is so bad that it is advised against bathing  Level of selected chemicals in food  Occurrences of residuals in food (domestic and foreign origin) that are exceeding the limit values.  Selected reported working related diseases  Consumption of carcinogenic substances in manufacturing industries</p> <p>Resources and resource efficiency  Denmark's total consumption of selected resources  Denmark's total consumption of material resources (TMR)  Amount of waste per unit GDP  Total amount of recycled waste, and amount recycled as part of total amount of waste  Amount of waste from 4 sectors; households, services, manufacturing industries and building and construction  The domestic raw material extraction (stone, gravel, sand, etc.) compared with reuse of the same materials  Proven reserves in the North Sea compared with annual production of oil and gas  Development of land use distributed by the land categories nature, forests, agricultural land, houses and roads in rural and urban areas</p>

Country	Name of indicator set	List of indicators
		<p>The regional and global dimension, including Denmark's international contribution</p> <ul style="list-style-type: none"> <li>Development aid as % of GNP (Gross national product)</li> <li>Number of developing countries and eastern European countries that have developed and implemented national strategies for sustainable development</li> <li>Developing countries' exports of selected products to EU countries</li> <li>Number of people living of less than 1 USD per day</li> <li>Countries with strategies for sustainable development (%)</li> </ul> <p>Food production and food supply security, agriculture and fisheries</p> <ul style="list-style-type: none"> <li>Number of food related diseases</li> <li>Nitrogen and phosphorus balances</li> <li>Total imports and exports of N and P by agriculture</li> <li>Number of farms and area that have implemented green accounts/ environmental control</li> <li>Development of area registered as Particularly Sensitive Territory.</li> <li>Pesticide treatment frequency on conventionally cultivated agricultural land</li> <li>Number and area of ecological farms</li> <li>Index: the environmental pressure from agriculture</li> <li>Number of enterprises, size and specialization (harmonic and inharmonious enterprises)</li> <li>Spawning stock biomass and fishing mortality compared with quotas, catches and biologically safe limits</li> <li>Size of by-catches distributed by fishing gear and fisheries</li> <li>By-catches of common porpoise, and monitoring of effect of catch avoiding arrangements (e.g. electronic devices)</li> <li>Capacity and composition of fishing fleet</li> </ul> <p>Measures and information and knowledge basis</p> <ul style="list-style-type: none"> <li>Environmental consequence evaluation of bills</li> <li>Share of governmental institutions that has reported green purchase policy</li> <li>Number of schools with green flags</li> <li>Number of forest kindergartens, Forest schools for visitors especially schoolchildren and number of rangers</li> <li>Green tax burden as part of GDP</li> </ul> <p>Public participation and Local Agenda 21</p> <ul style="list-style-type: none"> <li>Number of counties and municipalities that have started the work with local Agenda 21</li> </ul> <p><sup>1)</sup> <i>Unofficial translation by the authors</i></p>
Finland	National sustainable development indicators for Finland	<p><b>Ecological</b></p> <ul style="list-style-type: none"> <li>Climate change</li> <li>Greenhouse gas emissions</li> <li>Finland's mean temperatures</li> <li>Ice break-up in the river Tornio</li> </ul>

Country	Name of indicator set	List of indicators
		<p>Ozone layer depletion</p> <ul style="list-style-type: none"> <li>Importation of ozone layer-depleting substances</li> <li>Stratospheric ozone above Finland</li> </ul> <p>Acidification</p> <ul style="list-style-type: none"> <li>Acidifying emissions</li> <li>Exceeding the critical sulphur load</li> </ul> <p>Eutrophication</p> <ul style="list-style-type: none"> <li>Nutrient discharges</li> <li>Nutrient balance</li> <li>Water quality</li> <li>Algae levels</li> </ul> <p>Biodiversity</p> <ul style="list-style-type: none"> <li>Number of threatened species</li> <li>Population trends in farmland and forest birds</li> <li>Number of grey seals</li> <li>Protected areas</li> <li>Implementation of nature conservation programmes</li> </ul> <p>Toxic contamination</p> <ul style="list-style-type: none"> <li>Emissions of volatile organic compounds</li> <li>Mercury emissions</li> <li>Pesticide sales</li> <li>PCB levels in Baltic herring</li> <li>Dioxin levels in breast milk</li> </ul> <p><b>Economic</b></p> <p>Economic development</p> <ul style="list-style-type: none"> <li>Gross Domestic Product</li> <li>Current account surplus</li> <li>State financial assets and liabilities</li> <li>Inflation</li> </ul> <p>Environmental policy instruments</p> <ul style="list-style-type: none"> <li>Environmental taxes and fees</li> <li>Environmental protection expenditures</li> <li>Taxes per CO<sub>2</sub> content of fuels</li> <li>EMAS registrations and environmental certificates</li> </ul> <p>Natural resources</p> <ul style="list-style-type: none"> <li>Forest age and structure</li> <li>Annual forest increment and drain</li> <li>Cultivated and fallow land</li> <li>Reindeer numbers</li> <li>Commercial fisheries</li> <li>Fish farm production</li> </ul> <p>Community structure and transport</p> <ul style="list-style-type: none"> <li>Urban land area and the urban population</li> <li>Urban population densities</li> <li>Average commuting distance</li> <li>Car numbers and use</li> <li>Trends in car and public transport use</li> <li>Air quality in cities</li> </ul> <p>Production and consumption</p> <ul style="list-style-type: none"> <li>Total energy consumption (by energy source)</li> </ul>

Country	Name of indicator set	List of indicators
		<p>Energy use (by sector)  Total consumption of natural resources  Water consumption  Holiday air travel  Household consumer spending  Generation of waste  Waste deposited at landfills  Recovery of packaging materials</p> <p><b>Socio-cultural</b></p> <p>Demographic developments  Annual population changes  Dependency ratio  Life expectancy  Internal migration</p> <p>Lifestyles and illnesses  Daily smokers  Obesity  Alcohol and drug related illnesses  HIV infections  Suicides</p> <p>The workforce  Unemployment  Long-term unemployment  Occupational accidents  Retirement age and disability pensions</p> <p>Social problems and equality issues  Incidence of poverty  Income level differences  The homeless  Women's earnings relative to men  Relocated children  Violent crime</p> <p>Education, research and participation  Education levels  Research and development expenditure  Young people neither studying nor working  Voter turnout</p> <p>Access to information  Newspaper circulations  Library loans  Internet users</p> <p>Cultural heritage  Meadows and pastures  Visits to museums  Age structure of buildings</p> <p>Ethnic minorities  Classes taught in Saame  Immigration unemployment rate</p> <p>Development co-operation  Official development aid</p>

Country	Name of indicator set	List of indicators
France	Les indicateurs de développement durable	<p style="text-align: center;"><b>Development aid to regions near Finland</b></p> <p>French structure for the construction of sustainable development indicators: 9 modules. (The 307 indicator names are only available in French and are not included in this table. Only module names are given):</p> <p>1 – Efficiency of the productive system - Coupling/decoupling (38 indicators)</p> <p>2 – Natural resource use (critical capital) and pollution (29 indicators)</p> <p>3 – Management of capital stocks (34 indicators)</p> <p>4 – Distribution and spatial inequalities (52 indicators)</p> <p>5 - Globalisation and governance (relations of France with other countries) (20 indicators)</p> <p>6 – Access to income, services and wealth, inequalities and exclusion (40 indicators)</p> <p>7 – Satisfaction, preferences and participation (29 indicators)</p> <p>8 – Principles of responsibility and precaution (26 indicators)</p> <p>9 – Vulnerability, flexibility and adaptability (39 indicators)</p>
Korea	Korean Sustainable Development Indicators	<p><b>CATEGORY SOCIAL</b></p> <p><b>THEME EQUITY</b></p> <p><b>Sub-theme Poverty, Indicators:</b> Percent of Population Living below Poverty Line Gini Index of Income Inequality Unemployment Rate</p> <p><b>Sub-theme Gender Equality, Indicators:</b> Female to Male Number ratio Female to Male Wage ratio</p> <p><b>THEME HEALTH</b></p> <p><b>Sub-theme Nutritional Status, Indicator:</b> Nutritional Status of Population</p> <p><b>Sub-theme Mortality, Indicators:</b> Infant Mortality Life Expectancy at Birth</p> <p><b>Sub-theme Sanitation, Indicator:</b> Percent of Population with Adequate Sewage Disposal</p> <p><b>Sub-theme Drinking Water, Indicators:</b> Population with Access to Safe Drinking Water</p> <p><b>Sub-theme Health care, Indicators:</b> Immunization Against Infectious Childhood Disease Percent of Population with Access to Primary Health Care Facilities (sub-indicator) Budget of Welfare (sub-indicator)</p> <p><b>THEME EDUCATION</b></p> <p><b>Sub-theme Education Level, Indicators:</b> Secondary or Primary School Completion Ratio Ratio of Education Cost (sub-indicator)</p> <p><b>THEME HOUSING</b></p> <p><b>Sub-theme Living Conditions, Indicator:</b> Ratio of Housing Supply</p> <p><b>THEME SECURITY</b></p> <p><b>Sub-theme Crime, Indicator:</b> Number of Reported Crimes per 1000 Population</p>

Country	Name of indicator set	List of indicators
		<p><b>THEME POPULATION</b>  <b>Sub-theme</b> Population Change, <b>Indicators:</b>  Population Density  Population Growth Rate  Index of Age (sub-indicator)</p> <p><b>CATEGORY ENVIRONMENTAL</b></p> <p><b>THEME ATMOSPHERE</b>  <b>Sub-theme</b> Climate Change, <b>Indicator:</b>  Emissions of Greenhouse Gases</p> <p><b>Sub-theme</b> Ozone Layer Depletion, <b>Indicator:</b>  Consumption of Ozone Depleting Substances</p> <p><b>Sub-theme</b> Air Quality, <b>Indicators:</b>  Ambient Concentration of Air Pollutants in Urban Areas  Expenditure on Air Pollution Abatement (sub-indicator)</p> <p><b>THEME LAND</b>  <b>Sub-theme</b> Land use, <b>Indicator:</b>  Changes in Land Condition</p> <p><b>Sub-theme</b> Agriculture, <b>Indicators:</b>  Arable and Permanent Crop Land Area  Use of Fertilizers  Use of Agricultural Pesticides</p> <p><b>Sub-theme</b> Forests, <b>Indicators:</b>  Forest Area as a Percent of Land Area  Wood Harvesting Intensity  Forest Management Area as a % of Land Area (sub-indicator)</p> <p><b>Sub-theme</b> Urbanization, <b>Indicator:</b>  Area of Urban Formal and Informal Settlements</p> <p><b>THEME OCEANS, SEAS AND COASTS</b>  <b>Sub-theme</b> Coastal Zone, <b>Indicator:</b>  DO and COD in Coastal Areas</p> <p><b>Sub-theme</b> Fisheries, <b>Indicator:</b>  Annual Catch by Major Species</p> <p><b>THEME FRESH WATER</b>  <b>Sub-theme</b> Water Quantity, <b>Indicators:</b>  Annual Withdrawal of Ground and Surface Water as a Percent of Total Available Water  Consumption of Water per Capita</p> <p><b>Sub-theme</b> Water Quality, <b>Indicators:</b>  BOD in Water Bodies  Concentration of Faecal Coliform in Freshwater (sub-indicator)</p> <p><b>THEME BIODIVERSITY</b>  <b>Sub-theme</b> Ecosystem, <b>Indicator:</b>  Area of Selected Key Ecosystems</p> <p><b>Sub-theme</b> Species, <b>Indicator:</b>  Threatened Species as a Percentage of Total Native Species</p> <p><b>CATEGORY ECONOMIC</b></p> <p><b>THEME ECONOMIC STRUCTURE</b>  <b>Sub-theme</b> Economic Performance, <b>Indicators:</b>  GDP per Capita  Investment Share in GDP</p> <p><b>Sub-theme</b> Trade, <b>Indicator:</b>  Balance of Trade in Goods and Services</p> <p><b>Sub-theme</b> Financial Status, <b>Indicators:</b></p>

Country	Name of indicator set	List of indicators
		<p>Debt to GNP Ratio Total ODA Given or Received as a Percent of GNP Environmental Protection Expenditure as a Percent of GDP FDI (sub-indicator)</p> <p><b>THEME CONSUMPTION AND PRODUCTION PATTERNS</b> <b>Sub-theme</b> Material Consumption, <b>Indicator:</b> Private Sector Consumption Expenditure</p> <p><b>Sub-theme</b> Energy Use, <b>Indicators:</b> Annual Energy Consumption per Capita Per Capita Consumption of Fossil Fuel Vehicle Transport (sub-indicator) Share of Consumption of Renewable Energy Resources</p> <p><b>Sub-theme</b> Waste Generation and Management, <b>Indicators:</b> Generation of Industrial and Municipal Solid Waste Generation of Hazardous Waste Generation of Radioactive Waste Generation of Domestic Waste (sub-indicator) Waste Recycling and Reuse Expenditures on Waste Management (sub-indicator)</p> <p><b>Sub-theme</b> Transportation, <b>Indicator:</b> Registration of Motor Vehicles</p> <p><b>CATEGORY INSTITUTIONAL</b> <b>THEME INSTITUTIONAL FRAMEWORK</b></p> <p><b>Sub-theme</b> Strategic Implementation of SD, <b>Indicator:</b> National Sustainable Development Strategy</p> <p><b>THEME INSTITUTIONAL CAPACITY</b> <b>Sub-theme</b> Information Access, <b>Indicator:</b> PC Internet Registration</p> <p><b>Sub-theme</b> Communication Infrastructure, <b>Indicator:</b> Main Telephone Lines and Cell Phones per 1000 Inhabitants</p> <p><b>Sub-theme</b> Science and Technology, <b>Indicator:</b> Expenditure on Research and Development as a Percent of GDP</p> <p><b>Sub-theme</b> Natural Disaster Preparedness and Response, <b>Indicator:</b> Economic and Human Loss Due to Natural Disasters <b>Disaster Preparedness Rate (sub-indicator)</b></p>
Luxem- bourg	Indicator set within the national SD strategy.	<p><b>CATEGORY SOCIAL, 5 themes (18 indicators):</b></p> <ul style="list-style-type: none"> <li>• Social equality;</li> <li>• Fight against poverty;</li> <li>• Demographic dynamics and sustainability;</li> <li>• Promotion of education and R&amp;D; and</li> <li>• Protection and support of public health.</li> </ul> <p><b>CATEGORY ECONOMIC, 5 themes (22 indicators):</b></p> <ul style="list-style-type: none"> <li>• Sustainable economy and quality of life;</li> <li>• Conciliation of economy and ecology in companies;</li> <li>• Sustainable energy;</li> <li>• Sustainable agriculture; and</li> <li>• Sustainable mobility and transport.</li> </ul> <p><b>CATEGORY ENVIRONMENTAL, 6 themes (19 indicators):</b></p> <ul style="list-style-type: none"> <li>• Protection of the hydrosphere;</li> <li>• Protection of the atmosphere;</li> <li>• Protection of the geosphere;</li> <li>• Sustainable management of forests;</li> <li>• Conservation of biological diversity; and</li> <li>• Sustainable management of waste.</li> </ul>



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Netherlands	Indicators of sustainable development for the Netherlands	<table border="1"> <thead> <tr> <th data-bbox="552 327 826 349">Indicator</th> <th data-bbox="834 327 1098 371">Cell in analytical matrix (i.e. important for)</th> <th data-bbox="1106 327 1370 371">Remarks (also important for...)</th> </tr> </thead> <tbody> <tr> <td>• Income distribution</td> <td>Social – here and now</td> <td></td> </tr> <tr> <td>• Life expectancy</td> <td>Social – here and now</td> <td></td> </tr> <tr> <td>• Labour force participation, women</td> <td>Social – here and now</td> <td>Economic – here</td> </tr> <tr> <td>• Voluntary work</td> <td>Social – here and now</td> <td></td> </tr> <tr> <td>• No. of crime victims</td> <td>Social – here and now</td> <td></td> </tr> <tr> <td>• Quality of life index</td> <td>Social – here and now</td> <td>Economic – here and now</td> </tr> <tr> <td>• Incapacity to work</td> <td>Social – here and now</td> <td>Economic – here</td> </tr> <tr> <td>• Early 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(institutional)	• National debt	Economic – here and later		• Professional training (lifelong learning)	Economic – here and later	Social – here	• R&D expenditure	Economic – here and later	Social and ecological (General knowledge)	• Higher education	Economic – here and later		• Natural gas reserves	Economic – here and later		• Investment in developing countries	Economic – elsewhere		• Imports from Africa	Economic – elsewhere		• Quality of the Waddenzee	Ecological – here and now	Ecological – elsewhere	• Area of natural habitat	Ecological – here and now		• Index of ecological value	Ecological – here and now		• Eutrophication	Ecological – here and later		• Groundwater depletion	Ecological – here and later		• Acidifying emissions	Ecological – here and later	Ecological – elsewhere	• Renewable energy	Ecological – elsewhere	Economic – here and later	• Greenhouse gas emissions	Ecological – elsewhere		• Energy attributable to consumption	Ecological – elsewhere		• Land use attributable to 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• Sea level North Sea	Social – here and later	Economic – here and later																																																																																																												
• Development cooperation budget (% of GDP)	Social – elsewhere	Economic – elsewhere																																																																																																												
• Asylum requests	Social – elsewhere	Social – here																																																																																																												
• GDP per capita	Economic – here and now																																																																																																													
• Unemployment	Economic – here and now	Social – here and now																																																																																																												
• Cost of congestion	Economic – here and now	Social – here and now																																																																																																												
• Inflation	Economic – here and now																																																																																																													
• Labor force participation, older people	Economic – here and now	Economic – here and later (institutional)																																																																																																												
• National debt	Economic – here and later																																																																																																													
• Professional training (lifelong learning)	Economic – here and later	Social – here																																																																																																												
• R&D expenditure	Economic – here and later	Social and ecological (General knowledge)																																																																																																												
• Higher education	Economic – here and later																																																																																																													
• Natural gas reserves	Economic – here and later																																																																																																													
• Investment in developing countries	Economic – elsewhere																																																																																																													
• Imports from Africa	Economic – elsewhere																																																																																																													
• Quality of the Waddenzee	Ecological – here and now	Ecological – elsewhere																																																																																																												
• Area of natural habitat	Ecological – here and now																																																																																																													
• Index of ecological value	Ecological – here and now																																																																																																													
• Eutrophication	Ecological – here and later																																																																																																													
• Groundwater depletion	Ecological – here and later																																																																																																													
• Acidifying emissions	Ecological – here and later	Ecological – elsewhere																																																																																																												
• Renewable energy	Ecological – elsewhere	Economic – here and later																																																																																																												
• Greenhouse gas emissions	Ecological – elsewhere																																																																																																													
• Energy attributable to consumption	Ecological – elsewhere																																																																																																													
• Land use attributable to consumption	Ecological – elsewhere																																																																																																													
• Energy intensiveness	Ecological – elsewhere	Economic – here and later																																																																																																												
Portugal <sup>2)</sup>	Proposta para um Sistema de Indicadores de Desenvolvimento Sustentável (Proposal for a System of Sustainable Development Indicators)	<p><b>Environmental</b></p> <ul style="list-style-type: none"> <li>Greenhouse gas emissions</li> <li>Emissions of SOx</li> <li>Emissions of NOx</li> <li>Emissions of ammonia (NH<sub>3</sub>)</li> <li>Emissions of VOC</li> <li>Consumption of ozone-depleting substances</li> <li>Average air temperature</li> <li>Investment and spending to reduce air pollution</li> </ul>																																																																																																												

Country	Name of indicator set	List of indicators
		Population growth in coastal areas Modification of coastal lines Built area Diffuse-source pollution Point discharges of untreated discharges Oil spills Water quality in coastal zones Coastal zones with "blue" flags Quality of water system in coastal areas, rivers, river estuaries, wetlands Fish stocks Fish stocks below biological limits Fish captures Investment and spending on protection of coastal areas Available water resources Withdrawals of ground and surface water Water consumption Population with access to drinkable water Efficiency of systems of water treatment Surface water quality Groundwater quality Quality of water for human use Production of wastewater Population connected to sewage treatment plants Efficiency of sewage treatment plants Re-use of waste water treated Density hydrological networks Investment and spending in freshwater management Soil use National park areas Agricultural land irrigated Consumption/use of agricultural pesticides Consumption/use of agricultural pesticides and commercial fertilisers (NPK) Contaminated soil Areas affected by desertification Investment and spending in soil conservation Protected areas Marine protected areas Protected areas which are part of international programs Degree of vigilance of protected areas Protected areas under regulation plans Use of protected areas for environmental education and awareness Threatened species Protected species Maintenance of forest and agricultural areas s with interest for nature conservation Arid areas, and areas protected or fragile Investment and spending (private and public) for nature conservation

Country	Name of indicator set	List of indicators
		<p>Type of forest cover  Total production of wood  Forest production of non-wood materials  Forest arid areas  Investment and spending for forest protection  Sale of GMOs  Waste production  Waste production by sectors of economic activity  Production and final destination of mud in stations for wastewater treatment  Waste treatment and disposal  Waste recycles, by type  Imports and exports of waste  Energy produced from wastes  Investment and spending on waste management  Population affected by external ambient noise  Instruments to minimise noise  Investment and spending to control noise</p> <p><b>Economic</b>  GDP  Changes in value added by sector  Investment and spending to protect the environment  Imports and exports  Imports by type of goods  Exports by type of goods  ODA  Foreign reserves  Foreign direct investment  Energy consumption  Production and consumption of renewable energy sources  Energy intensity of the economy  Price changes for different types of energy and electricity  Average age of motor vehicles  Number of motor vehicles in circulation  Passenger transport, by mode  Traffic intensity  Freight transport, by mode  Structure of road networks  Real prices of different modes of passenger transport  Transport accidents  Agricultural production  Changes in areas classified as “national agricultural reserve”  Tourism intensity  Seasonal tourism  Tourism in rural areas  Room availability  Industrial production</p> <p><b>Social</b>  Population density</p>

Country	Name of indicator set	List of indicators
		<p>Fertility rate  Child mortality rate  Maternal mortality rate  Average life expectancy  Children less than 1 year old immunised against infectious disease  Hospitals and health care centres  Doctors  Nurses  Total health spending  Illiteracy rates  Population who completed secondary education  Public education expenditure  Total public expenditure in social protection  Total number of recipients of old-age pensions  Employment structure, by sector  Unemployment rates  Public libraries and users  Crime indices  Individuals less than 20 years old condemned in tribunals  Prisoners  Litigation for environmental reasons</p> <p><b>Institutional</b>  Environmental accounting  Employment in environment-related activities  Local Agenda 21  Individuals with post-secondary education  R&amp;D spending  National implementation of ratified global agreements  Internet access  Consumption of newspapers  – Systems of Environmental Management, and their certification</p> <p><sup>2)</sup>Unofficial translation by the OECD</p>
Sweden	Sustainable Development Indicators for Sweden - a first set 2001	<p><b>Efficiency</b>  Total energy supply by GDP  GDP per hour worked  Waste  State of health, expenditures on health  Proportion of students not qualifying for upper secondary schools</p> <p><b>Contribution and Equality</b>  Population by age group  Gross regional product  Passenger and freight transport  Disposable income per consumption unit  Women's salaries as percentage of men's salaries  Electoral participation  Ratio of the population exposed to violent crime or threat of violence  Enterprises with EMAS or ISO 14000 certification, certified eco-schools; area with certified forestry  Purchases of eco-labelled products and services</p>

Country	Name of indicator set	List of indicators
		<p><b>Adaptability</b></p> <p>Primary energy supply mix  Investments in share of GDP  Newly started enterprises and bankruptcies  Level of education  Research and development expenditures in relation to GDP  Employment: Women and men by activity status  Organic farming, grazed pastures and hay meadows</p> <p><b>Values and resources for coming generations</b></p> <p>General Government and Central Government Net Debt in per cent of GDP  Share of GDP spent on health, education, welfare and social security  Direct Material Consumption  Quantities of chemicals hazardous to health and/or the environment  Prevalence of allergic asthma among school children  Protected area  Exploitation of Baltic herring  Extinct and endangered species  Emissions of carbon dioxide</p>
Switzerland	MONET	<p>List of topics in MONET indicator grid:</p> <ol style="list-style-type: none"> <li>1. Social security and material prosperity</li> <li>2. Health</li> <li>3. Subjective living conditions</li> <li>4. Living conditions</li> <li>5. Culture and leisure</li> <li>6. Social cohesion and participation</li> <li>7. Education and science</li> <li>8. Information</li> <li>9. Physical security</li> <li>10. International trade and international competitiveness</li> <li>11. Inland market</li> <li>12. Work</li> <li>13. Research, development and technology</li> <li>14. Production</li> <li>15. Consumption</li> <li>16. Mobility</li> <li>17. International cooperation</li> <li>18. Materials, waste, impact</li> <li>19. Soil</li> <li>20. Water</li> <li>21. Air</li> <li>22. Climate</li> <li>23. Landscape</li> <li>24. Biodiversity</li> <li>25. Energy and raw materials</li> <li>26. Forests</li> </ol> <p>About 150 indicators have been selected. The list is not yet officially approved, and is therefore not presented here.</p>
United Kingdom	<p>Indicators of Sustainable Development for the United Kingdom</p> <p>Headline indicators in the UK sustainable development strategy</p>	<p>Has been further developed, and therefore not referred here.</p> <p>H1. Economic output - Total output of the economy (GDP and GDP per head)  H2. Investment - Total and social investment as a percentage of GDP  H3. Employment - Proportion of people of working age who are in work  H4. Poverty and social exclusion - Indicators of success in tackling poverty and social exclusion</p>

Country	Name of indicator set	List of indicators
		H5. Education - Qualifications at age 19 H6. Health - Expected years of healthy life H7. Housing - Homes judged unfit to live in H8. Crime - Level of crime H9. Climate change - Emissions of greenhouse gases H10. Air quality - Days when air pollution is moderate or higher H11. Road traffic - Road traffic H12. River water quality - Rivers of good or fair quality H13. Wildlife - Populations of wild birds H14. Land use - New homes built on previously developed land H15. Waste - Waste arisings and management
	Core set of indicators of sustainable development	<b>Sustainable economy</b> A. Doing more or less; improving resource efficiency A1 UK resource use D A2 Energy efficiency of economy A3 Energy use per household H15 Waste arisings and management A4 Waste by sector D A5 Household waste and recycling A6 Materials recycling A7 Hazardous waste Economic stability and competitiveness; Developing skills and rewarding work; Sustainable production and consumption. B. Economic stability and competitiveness H1 Total output of the economy (GDP and GDP per head) B1 Rate of inflation B3 Labour productivity B4 UK imports, exports, trade balance H2 Total and social investment as a percentage of GDP B5 Social investment as a per cent of GDP C. Developing skills and rewarding work H5 Qualifications at age 19 C1 16 year-olds with no qualifications C2 Adult literacy/numeracy C3 Learning participation C4 Businesses recognised as Investors In People H3 Proportion of people of working age who are in work C5 Proportion of people of working age in workless households C6 Proportion of people of working age out of work for more than two years C7 Proportion of lone parents, long-term ill and disabled people who are economically active C8 People in employment working long hours C9 Low pay D C10 Work fatalities and injury rates; working days lost through illness C11 UK companies implementing ethical trading codes of conduct D D. Sustainable production and consumption

Country	Name of indicator set	List of indicators
		<p>D Sustainable production and consumption</p> <p>D1 Consumer information D</p> <p>D2 Consumer expenditure</p> <p>D3 Energy and water consumption by sector/Waste and hazardous emissions by sector D</p> <p>D4 Adoption of environmental management systems (ISO 14001) and the EU Eco-Management and Audit Scheme (EMAS)</p> <p>D5 Corporate environmental engagement</p> <p>D6 Environmental reporting D</p> <p>D7 Household water use and peak demand</p> <p>D8 Thermal efficiency of housing stock</p> <p>D9 Primary aggregates per unit of construction value</p> <p>D10 Construction and demolition waste going to landfill</p> <p>D11 Energy efficiency of new appliances</p> <p>D12 Pesticide residues in food</p> <p>D13 Area under agreement under the Environmentally Sensitive Area and Countryside Stewardship agri-environment schemes</p> <p>D14 Area converted to organic production</p> <p>D15 Energy efficiency of road passenger travel/Average fuel consumption of new cars</p> <p>D16 Sustainable tourism D</p> <p>D17 Leisure trips by mode of transport</p> <p>D18 Overseas travel</p> <p>D19 Chemical releases to the environment D</p> <p>D20 Freight transport by mode</p> <p>D21 Heavy goods vehicle mileage intensity</p> <p><b>Building sustainable communities</b></p> <p>E. Promoting economic vitality and employment</p> <p>E Promoting economic vitality and employment</p> <p>E1 Regional variations in GDP</p> <p>E2 Index of local deprivation</p> <p>H4 Indicators of success in tackling poverty and social exclusion</p> <p>E3 Truancies and exclusions from school/teenage pregnancies</p> <p>E4 New business start-ups net of closures</p> <p>E5 Ethnic minority employment and unemployment</p> <p>F. Better health for all</p> <p>H6 Expected years of healthy life</p> <p>F1 Death rates from cancer, circulatory disease, accidents and suicides</p> <p>F2 Respiratory illness</p> <p>Health inequalities</p> <p>F4 NHS hospital waiting lists</p> <p>G. Travel</p> <p>H11 Road traffic</p> <p>G1 Passenger travel by mode</p> <p>G2 How children get to school</p> <p>G3 Average journey length by purpose</p> <p>G4 Traffic congestion</p> <p>G5 Distance travelled relative to income</p> <p>J. Access</p>

Country	Name of indicator set	List of indicators
		<p>J1 People finding access difficult</p> <p>J2 Access to services in rural areas</p> <p>J3 Access for disabled people</p> <p>J4 Participation in sport and cultural activities</p> <p>H7 Homes judged unfit to live in</p> <p>J5 Temporary accommodation/rough sleepers</p> <p>J6 Fuel poverty</p> <p>K. Shaping our surroundings</p> <p>H14 New homes built on previously developed land</p> <p>K1 Vacant land and properties and derelict land</p> <p>K2 New retail floor space in town centres and out of town</p> <p>K3 Population growth</p> <p>K4 Household growth</p> <p>K5 Buildings of Grade I and II* at risk of decay</p> <p>K6 Quality of surroundings</p> <p>K7 Access to local green space D</p> <p>K8 Noise levels</p> <p>H8 Level of crime</p> <p>K9 Fear of crime</p> <p>L. Involvement and stronger institutions</p> <p>L1 Number of local authorities with LA21 strategies</p> <p>L2 Voluntary activity</p> <p>L3 Community spirit</p> <p><b>Managing the environment and resources</b></p> <p>M. An integrated approach</p> <p>M1 Concentrations of persistent organic pollutants</p> <p>M2 Dangerous substances in water</p> <p>M3 Radioactive waste stocks</p> <p>M4 Discharges from the nuclear industry</p> <p>N. Climate change and energy supply</p> <p>N1 Rise in global temperature</p> <p>N2 Sea level rise</p> <p>H9 Emissions of greenhouse gases</p> <p>N3 Carbon dioxide emissions by end user</p> <p>N4 Electricity from renewable sources</p> <p>N5 Depletion of fossil fuels</p> <p>P. Air and atmosphere</p> <p>H10 Days when air pollution is moderate or higher</p> <p>P1 Concentrations of selected air pollutants</p> <p>P2 Emissions of selected air pollutants</p> <p>P3 Sulphur dioxide and nitrogen oxides emissions</p> <p>P4 Acidification in the UK</p> <p>P5 Ozone depletion</p> <p>Q. Freshwater</p> <p>H12 Rivers of good or fair quality</p> <p>Q1 Nutrients in water</p> <p>Q2 Water demand and availability</p> <p>Q3 Water affordability</p> <p>Q4 Water leakage</p> <p>Q5 Abstractions by purpose</p>



Country	Name of indicator set	List of indicators
		<p>Q6 Sites affected by water abstraction D</p> <p>R. Seas, oceans and coasts</p> <p>R1 Estuarine water quality, marine inputs</p> <p>R2 Compliance with Bathing Water Directive</p> <p>R3 Biodiversity in coastal/marine areas D</p> <p>R4 Fish stocks around the UK fished within safe limits</p> <p>R5 State of the world's fisheries</p> <p>S. Landscape and wildlife</p> <p>S1 Net loss of soils to development</p> <p>S2 Concentrations of organic matter in agricultural topsoils</p> <p>H13 Populations of wild birds</p> <p>S3 Trends in plant diversity</p> <p>S4 Biodiversity action plans</p> <p>S5 Landscape features - hedges, stone walls and ponds</p> <p>S6 Extent and management of SSSIs</p> <p>S7 Countryside quality D</p> <p>S8 Access to the countryside D</p> <p>S9 Native species at risk</p> <p>S10 Area of woodland in the UK</p> <p>S11 Area of ancient semi-natural woodland in GB</p> <p>S12 Sustainable management of woodland D</p> <p>S13 Number of countries with national forest programmes</p> <p>S14 Amount of secondary/ recycled aggregates used compared with virgin aggregates D</p> <p>S15 Land covered by restoration and aftercare conditions</p> <p><b>Sending the right signals</b></p> <p>T1 Greening government operations</p> <p>T2 Women in public appointments and senior positions</p> <p>T3 Prices of key resources - fuel</p> <p>T4 Real changes in the cost of transport</p> <p>T5 Expenditure on pollution abatement</p> <p>T6 Enforcement of regulations</p> <p>T7 Public understanding and awareness</p> <p>T8 Awareness in schools</p> <p>T9 Individual action for sustainable development</p> <p><b>International co-operation and development</b></p> <p>U1 Global poverty</p> <p>U2 Net Official Development Assistance (oda)</p> <p>U3 Global population</p> <p>U4 UK public expenditure on global environment protection</p> <p>U5 Implementation of multilateral environmental agreements D</p> <p>U6 International emissions of carbon dioxide per head</p> <p>U7 World and UK materials consumption levels per head</p> <p><i>D= Indicator to be developed (List updated 03/02/2001)</i></p>
	<p>Local quality of life counts. A handbook for a menu of local indicators of sustainable development.</p>	<p><b>Local quality of life indicators in the menu:</b></p> <p><u>Prudent use of resources</u></p> <p>Energy use (gas and electricity) (1)</p> <p>Domestic water use (2)</p> <p>Household waste arisings (3)</p> <p>Recycling of household waste (4)</p>

Country	Name of indicator set	List of indicators
		<p><u>Protection of the environment</u>  Number of days of air pollution (5)  Rivers of good or fair quality (6)  Net change in natural/semi-natural habitats (7)  Changes in population of selected characteristic species (8)</p> <p><u>Better health and education for all</u>  Mortality by cause (9)  Qualifications of young people (10)  Adult education (11)</p> <p><u>Access to local services and travel</u>  Homes judged unfit to live in (12)  Homelessness (13)  Access to key services (14)  Travel to work (15)  How do school children travel to school? (16)  Overall traffic volumes (17)</p> <p><u>Shaping our surroundings</u>  New homes built on previously developed land (18)  Public concern over noise (19)  Recorded crime per 1,000 population (20)  Fear of crime (21)</p> <p><u>Empowerment and participation</u>  Social participation (22)  Community well being (23)  Tenant satisfaction/participation (24)</p> <p><u>Sustainable local economy</u>  Employment/unemployment (25)  Benefit recipients (26)  Business start-ups and closures (27)  Companies with environment management systems (28)  Social and community enterprises (29)</p>
United States	Sustainable Development in the United States. An Experimental Set of Indicators.	<p><b>Economic indicators</b>  Capital assets (L)  Labour productivity (L)  Federal debt to GDP ratio (L)  Energy consumption per capita and per dollar of GDP (P)  Materials consumption per capita and per dollar of GDP (P)  Inflation (P)  Investments in R&amp;D as a percentage of GDP (P)  Domestic product (C)  Income distribution (C)  Consumption expenditures per capita (C)  Unemployment (C)  Homeownership rates (C)  Percentage of households in problem housing (C)</p> <p><b>Environmental indicators</b>  Surface water quality (L)</p>

Country	Name of indicator set	List of indicators
		<p>Acres of major terrestrial ecosystems (L)                      Contaminants in biota (L)                      Quantity of spent nuclear fuel (L)                      Status of stratospheric ozone (L)                      Greenhouse climate response index (L)                      Ratio of renewable water supply to withdrawals (P)                      Fisheries utilization (P)                      Invasive alien species (P)                      Conversion of cropland to other uses (P)                      Soil erosion rates (P)                      Timber growth to removals balance (P)                      Greenhouse gas emissions (P)                      Identification and management of superfund sites (P)                      Metropolitan air quality non-attainment (C)                      Outdoor recreation activities (C)</p> <p><b>Social indicators</b>                      U.S. population (L)                      Children living in families with only one parent present (L)                      Teacher training and application of qualifications (L)                      Contributing time and money to charities (P)                      Births to single mothers (P)                      Educational attainment by level (P)                      Participation in arts and recreation (P)                      People in census tracts with 40% or greater poverty (P)                      Crime rate (C)                      Life expectancy at birth (C)                      Educational achievement rates (C)                      L=Long-term Endowments and Liabilities, P=Processes, C=Current Results</p> <p>The indicator set above can also be structured according to issues or themes:                      Economic Prosperity                      Fiscal Responsibility                      Scientific &amp; Technological Advancement                      Employment                      Equity                      Housing                      Consumption                      Status of Natural Resources                      Air &amp; water Quality                      Contamination &amp; Hazardous Materials                      Ecosystem Integrity                      Global Climate Change                      Stratospheric Ozone Depletion                      Population                      Family Structure                      Arts &amp; Recreation                      Community Involvement                      Education                      Public Safety                      Human Health</p>

International Organisation	Name of indicator set	List of indicators and indicator themes
European Commission/Eurostat	Structural indicators	<p><b>General Economic Background Indicators</b></p> <ul style="list-style-type: none"> <li>a1. GDP per capita in PPS</li> <li>a2. Real GDP growth rate</li> <li>b1. Labour productivity</li> <li>b2. Labour productivity (per hour worked)</li> <li>c. Employment growth</li> <li>d. Inflation rate</li> <li>e. Unit labour cost growth</li> <li>f. Public balance</li> <li>g. General Government debt</li> </ul> <p><b>(I) Employment</b></p> <ul style="list-style-type: none"> <li>1. Employment rate</li> <li>2. Employment rate of older workers</li> <li>3. Gender pay gap</li> <li>4. Tax rate on low wage earners</li> <li>5. Life-long learning (adult participation in education and training)</li> <li>6. Quality of work (accidents at work)</li> <li>7. Unemployment rate</li> </ul> <p><b>(II) Innovation and research</b></p> <ul style="list-style-type: none"> <li>1. Spending on Human Resources (Public expenditure on education)</li> <li>2. R&amp;D expenditure</li> <li>3.1 Level of Internet access - households</li> <li>3.2 Level of Internet access - enterprises</li> <li>4. Science and technology graduates</li> <li>5. Patents</li> <li>6. Venture Capital</li> <li>7. ICT expenditure</li> </ul> <p><b>(III) Economic Reform</b></p> <ul style="list-style-type: none"> <li>1. Relative price levels and price convergence.</li> <li>2. Prices in the network industries</li> <li>3. Market Structure in the Network Industries</li> <li>4. Public procurement</li> <li>5. Sectoral and ad hoc State aid</li> <li>6. Capital raised on stock markets</li> <li>7. Business investments</li> </ul> <p><b>(IV) Social Cohesion</b></p> <ul style="list-style-type: none"> <li>1. Distribution of income (S80/S20 ratio)</li> <li>2. Risk of poverty</li> <li>3. Persistence of poverty</li> <li>4. Regional cohesion</li> <li>5. Early school-leavers not in further education or training</li> <li>6. Long-term unemployment rate</li> <li>7. Population in jobless households</li> </ul> <p><b>(V) Environment</b></p> <ul style="list-style-type: none"> <li>1. Emissions of greenhouse gases</li> <li>2. Energy intensity of the economy</li> <li>3. Volume of transport relative to GDP (freight and passengers)</li> <li>4. Modal split of transport</li> <li>5. Urban air quality index</li> <li>6. Municipal waste collected, landfilled and incinerated</li> <li>7. Share of renewables</li> </ul>
	Measuring progress towards a more sustainable Europe	<p><b>CATEGORY SOCIAL</b></p> <p><b>THEME EQUITY</b></p> <p><b>Sub-theme Poverty, Eurostat Indicator:</b></p> <ul style="list-style-type: none"> <li>Population Living below Poverty Line</li> <li>Measures of Income Inequality</li> <li>Unemployment Rate</li> <li>Youth Unemployment Rate</li> <li>Social Benefits per capita</li> </ul> <p><b>Sub-theme Gender Equality, Eurostat Indicator:</b></p> <ul style="list-style-type: none"> <li>Female to Male Wage Ratio</li> </ul>

International Organisation	Name of indicator set	List of indicators and indicator themes
		<p><b>Sub-theme</b> Child Welfare, <b>Eurostat Indicator:</b> Child Welfare</p> <p><b>THEME HEALTH</b> <b>Sub-theme</b> Nutrition Status, <b>Eurostat Indicator:</b> Nutritional Status of Population</p> <p><b>Sub-theme</b> Illness, <b>Eurostat Indicator:</b> Mortality due to Selected Key Illnesses</p> <p><b>Sub-theme</b> Mortality, <b>Eurostat Indicator:</b> Infant Mortality Life Expectancy at Birth</p> <p><b>Sub-theme</b> Sanitation, <b>Eurostat Indicator:</b> Population Connected to Sanitation System</p> <p><b>Sub-theme</b> Healthcare Delivery, <b>Eurostat Indicator:</b> National Health Expenditures Immunisation Against Childhood Diseases</p> <p><b>THEME EDUCATION</b> <b>Sub-theme</b> Education Level, <b>Eurostat Indicator:</b> Levels of Educational Attainment</p> <p><b>Sub-theme</b> Literacy, <b>Eurostat Indicator:</b> Low qualification levels</p> <p><b>THEME HOUSING</b> <b>Sub-theme</b> Living Conditions, <b>Eurostat Indicator:</b> Number of Rooms per Capita Household Consumption</p> <p><b>THEME SECURITY</b> <b>Sub-theme</b> Crime, <b>Eurostat Indicator:</b> Reported Crimes</p> <p><b>THEME POPULATION</b> <b>Sub-theme</b> Population Change, <b>Eurostat Indicator:</b> Population Growth Rate Population Density Net Migration Rate</p> <p><b>CATEGORY ENVIRONMENTAL</b> <b>THEME ATMOSPHERE</b> <b>Sub-theme</b> Climate Change, <b>Eurostat Indicator:</b> Per Capita Emissions of Greenhouse Gases</p> <p><b>Sub-theme</b> Ozone Layer Depletion, <b>Eurostat Indicator:</b> Consumption of Ozone Depleting Substances</p> <p><b>Sub-theme</b> Air Quality, <b>Eurostat Indicator:</b> Air Pollutants in Urban Areas</p> <p><b>THEME LAND</b> <b>Sub-theme</b> Agriculture, <b>Eurostat Indicator:</b> Agricultural Area and Organic Farming Nitrogen Balances Use of Agricultural Pesticides</p> <p><b>Sub-theme</b> Forests, <b>Eurostat Indicator:</b> Total Forest Area Wood Harvesting Ratio</p> <p><b>Sub-theme</b> Urbanisation, <b>Eurostat Indicator:</b> Growth of built-up area</p>

International Organisation	Name of indicator set	List of indicators and indicator themes
		<p><b>THEME</b> Oceans, Seas and Coasts  <b>Sub-theme</b> Coastal Zone, <b>Eurostat Indicator:</b>  Eutrophication of Coasts and Marine Waters</p> <p><b>Sub-theme</b> Fisheries, <b>Eurostat Indicator:</b>  Fish Catches by Selected Over-Exploited Species</p> <p><b>THEME</b> Fresh Water  <b>Sub-theme</b> Water Quantity, <b>Eurostat Indicator:</b>  Intensity of Water Use</p> <p><b>Sub-theme</b> Water Quality, <b>Eurostat Indicator:</b>  BOD Concentration in Selected Rivers  Quality of Bathing Water</p> <p><b>THEME</b> Biodiversity  <b>Sub-theme</b> Ecosystem, <b>Eurostat Indicator:</b>  Protected Area as a % of Total Area</p> <p><b>Sub-theme</b> Species, <b>Eurostat Indicator:</b>  Number of Threatened Species</p> <p><b>CATEGORY ECONOMIC</b>  <b>THEME</b> Economic Structure  <b>Sub-theme</b> Economic Performance, <b>Eurostat Indicator:</b>  GDP per Capita  Investment Share in GDP  Value Added by Main Sector  Inflation Rate</p> <p><b>Sub-theme</b> Trade, <b>Eurostat Indicator:</b>  Net Current Account  EU and International Markets</p> <p><b>Sub-theme</b> Financial Status, <b>Eurostat Indicator:</b>  Public Debt  Aid to Developing Countries</p> <p><b>THEME</b> Consumption and Production Patterns  <b>Sub-theme</b> Material Consumption  Material Consumption</p> <p><b>Sub-theme</b> Energy Use, <b>Eurostat Indicator:</b>  Per Capita Gross Inland Energy Consumption  Renewable Energy Sources  Intensity of Energy Use</p> <p><b>Sub-theme</b> Waste Generation and Management, <b>Eurostat Indicator:</b>  Generation and Disposal of Municipal Waste  Generation of Industrial Waste  Generation and Disposal of Hazardous Waste  Generation and Disposal of Radioactive Waste  Recycling of Waste: Paper and Glass  Waste Treatment and Disposal Facilities</p> <p><b>Sub-theme</b> Transportation, <b>Eurostat Indicator:</b>  Passenger Transport by Mode  Freight Transport by Mode</p> <p><b>Sub-theme</b> Environmental Protection, <b>Eurostat Indicator:</b>  Environmental Protection Expenditures</p> <p><b>CATEGORY INSTITUTIONAL</b>  <b>THEME</b> INSTITUTIONAL FRAMEWORK  <b>Sub-theme</b> Member States Contributions on National SDI Experiences (Annex to Institutional Dimension), <b>Eurostat Indicator:</b>  National Sustainable Development Indicators</p>

International Organisation	Name of indicator set	List of indicators and indicator themes
		<p><b>THEME</b> Institutional CAPACITY  <b>Sub-theme</b> Information Access, <b>Eurostat Indicator:</b> Internet Access</p> <p><b>Sub-theme</b> Communication Infrastructure, <b>Eurostat Indicator:</b> Communication Infrastructure</p> <p><b>Sub-theme</b> Science and Technology, <b>Eurostat Indicator:</b> Expenditure on Research and Development</p> <p><b>Sub-theme</b> Natural Disaster Preparedness and Response, <b>Eurostat Indicator:</b> Risks to Human and Natural Capital</p>
MAP, MCSD, Plan Bleu	Indicators for sustainable development in the Mediterranean region. (Blue Plan indicators)	<p><b>1. Population and society</b></p> <p>1.1 Demography and population</p> <ol style="list-style-type: none"> <li>1. Population growth rate (P)</li> <li>2. Total fertility rate (R)</li> </ol> <p>1.2 Standard of life, employment, social inequities, poverty, unemployment</p> <ol style="list-style-type: none"> <li>3. Women per hundred men in the labour force (S)</li> <li>4. Human poverty index (HPI) (S)</li> <li>5. Employment rate (R)</li> </ol> <p>1.3 Culture, education, training, awareness improvement</p> <ol style="list-style-type: none"> <li>6. School enrolment gross ratio (P)</li> <li>7. Difference between male and female school enrolment ratios (S)</li> <li>8. Production of cultural goods (S)</li> <li>9. Share of private and public finances allocated to the professional training (R)</li> <li>10. Public expenditure for the conservation and value enhancement of natural, cultural and historical heritage (R)</li> </ol> <p>1.4 Health, public health</p> <ol style="list-style-type: none"> <li>11. Life expectancy at birth (S)</li> <li>12. Infant mortality rate (S)</li> <li>13. Access to safe drinking water (R)</li> </ol> <p>1.5 Consumption and production patterns</p> <ul style="list-style-type: none"> <li>- 14. Annual energy consumption per inhabitant (P)</li> <li>- 15. Number of passenger cars per 100 inhabitants (P)</li> <li>- 16. Main telephones lines per 100 inhabitants (S)</li> <li>- 17. Distribution of food consumption per income decile (S)</li> </ul> <p><b>2. Lands and areas</b></p> <p>2.1 Habitat and urban system</p> <ul style="list-style-type: none"> <li>- 18. Urban population growth rate (P)</li> <li>- 19. Loss of agricultural land due to urbanisation (P)</li> <li>- 20. Urbanisation rate (S)</li> <li>- 21. Floor area per person (S)</li> </ul> <p>2.2 Rural and dry areas, mountains and hinterland</p> <ol style="list-style-type: none"> <li>22. Population change in mountains areas (P)</li> <li>23. Existence of program(s) concerning the less favoured rural zones (R)</li> </ol> <p>2.3 Forests</p> <ul style="list-style-type: none"> <li>- 24. Exploitation index of forest resources (P)</li> <li>- 25. Forest area (S)</li> <li>- 26. Forest protection rate (R)</li> </ul> <p>2.4 Littoral and "littoralisation"</p> <ul style="list-style-type: none"> <li>- 27. Artificialized coastline / Total coastline (P)</li> <li>- 28. Number of tourists per km of coastline (P)</li> <li>- 29. Number of moorings in yachting harbours (P)</li> <li>- 30. Population growth in Mediterranean coastal regions (S)</li> <li>- 31. Population density in coastal regions (S)</li> <li>- 32. Coastline erosion (S)</li> </ul>

International Organisation	Name of indicator set	List of indicators and indicator themes
		<ul style="list-style-type: none"> <li>- 33. Protected coastal area (R)</li> </ul> <p>2.5 Sea</p> <ul style="list-style-type: none"> <li>- 34. Oil tanker traffic (P)</li> <li>- 35. Global quality of coastal waters (S)</li> <li>- 36. Density of the solid waste disposed in the sea (S)</li> <li>- 37. Coastal waters quality in some main "hot spots" (S)</li> <li>- 38. Quality of biophysical environment (S)</li> <li>- 39. Protection of specific ecosystems (R)</li> <li>- 40. Existence of monitoring programs concerning pollutants input (R)</li> <li>- 41. Wastewater treatment rate before sea release for coastal agglomerations over 100 000 inhabitants (R)</li> <li>- 42. Harbour equipment ratio in un-ballasting facilities (R)</li> </ul> <p><b>3. Economic activity and sustainability</b></p> <p>3.1 Global economy</p> <ul style="list-style-type: none"> <li>- 43. Distribution of GDP (Agriculture, Industry, Services) (P)</li> <li>- 44. Foreign Direct Investment (P)</li> <li>- 45. External debt / GDP (S)</li> <li>- 46. Saving / investment (S)</li> <li>- 47. Public deficit / GDP (S)</li> <li>- 48. Current payments / GDP (S)</li> <li>- 49. Employment distribution (Agriculture, Industry, Services) (S)</li> </ul> <p>3.2 Agriculture</p> <ul style="list-style-type: none"> <li>- 50. Use of agricultural pesticides (P)</li> <li>- 51. Use of fertilisers per hectare of agricultural land (P)</li> <li>- 52. Share of irrigated agricultural land (P)</li> <li>- 53. Agriculture water demand per irrigated area (P)</li> <li>- 54. "Arable area" per capita (S)</li> <li>- 55. Rate of food dependence (S)</li> <li>- 56. Annual average of wheat yield (S)</li> <li>- 57. Water use efficiency for irrigation (R)</li> </ul> <p>3.3 Fisheries, aquaculture</p> <ul style="list-style-type: none"> <li>- 58. Value of halieutic catches at constant prices (P)</li> <li>- 59. Number and average power of fishing boats (P)</li> <li>- 60. Fishing production per broad species groups (S)</li> <li>- 61. Production of aquaculture (S)</li> <li>- 62. Public expenditures on fish stocks monitoring (R)</li> </ul> <p>3.4 Mines, Industry</p> <ul style="list-style-type: none"> <li>- 63. Industrial releases into water (P)</li> <li>- 64. Intensity of material use (S)</li> <li>- 65. Number of mines and carries rehabilitated after exploitation ®</li> </ul> <p>3.5 Services and commerce</p> <ul style="list-style-type: none"> <li>- 66. Turnover distribution of commerce according to the number of employees (S)</li> <li>- 67. Share of merchant services to the enterprises (S)</li> <li>- 68. Existence of restrictive legislations on the setting up of hypermarkets (R)</li> </ul> <p>3.6 Energy</p> <ul style="list-style-type: none"> <li>- 69. Energy intensity (P)</li> <li>- 70. Energy balance (P)</li> <li>- 71. Share of consumption of renewable energy resources (R)</li> </ul> <p>3.7 Transports</p> <ul style="list-style-type: none"> <li>- 72. Average annual distance covered per passenger car (P)</li> <li>- 73. Structure of transport by mode (S)</li> <li>- 74. Density of the road network (S)</li> <li>- 75. Share of collective transport (R)</li> </ul> <p>3.8 Tourism</p> <ul style="list-style-type: none"> <li>- 76. Number of nights per 100 inhabitants (P)</li> <li>- 77. Number of secondary homes over total number of residences (P)</li> <li>- 78. Number of bed- places per 100 inhabitants (P)</li> <li>- 79. Public expenditure on tourism development (P)</li> <li>- 80. Number of international tourists per 100 inhabitants (P)</li> <li>- 81. Share of tourism receipts in the exportations (S)</li> <li>- 82. Currency balance due to tourism activities (S)</li> <li>- 83. Public expenditure on tourism sites conservation (R)</li> </ul> <p><b>4. Environment</b></p> <p>4.1 Freshwater and waste water</p> <ul style="list-style-type: none"> <li>- 84. Exploitation index of renewable resources (P)</li> <li>- 85. Non-sustainable water production index (P)</li> </ul>



International Organisation	Name of indicator set	List of indicators and indicator themes
		<ul style="list-style-type: none"> <li>- 86. Share of distributed water not conform to quality standards (S)</li> <li>- 87. Water global quality index (S)</li> <li>- 88. Share of collected and treated wastewater by the public sewerage system (R)</li> <li>- 89. Existence of economic tools to recover the water cost in various sector (R)</li> <li>- 90. Drinking water use efficiency (R)</li> <li>- 91. Share of industrial wastewater treated on site (R)</li> <li>4.2 Soils, vegetation and desertification <ul style="list-style-type: none"> <li>- 92. Ratio of land exploitation (P)</li> <li>- 93. Land use change (S)</li> <li>- 94. "Arable area" change (P)</li> </ul> </li> <li>4.3 Biological diversity, ecosystems <ul style="list-style-type: none"> <li>- 95. Wetland area (P)</li> <li>- 96. Number of turtles caught per year (P)</li> <li>- 97. Share of fishing fleet using barge (P)</li> <li>- 98. Threatened species (S)</li> <li>- 99. Total expenditure on protected areas management (R)</li> </ul> </li> <li>4.4 Solid, industrial and hazardous waste <ul style="list-style-type: none"> <li>- 100. Generation of municipal solid waste (P)</li> <li>- 101. Generation of hazardous wastes (P)</li> <li>- 102. Imports and exports of hazardous wastes (P)</li> <li>- 103. Generation of industrial solid wastes (P)</li> <li>- 104. Area of land contaminated by hazardous wastes (S)</li> <li>- 105. Distribution of municipal wastes (S)</li> <li>- 106. Minimisation of waste production (R)</li> <li>- 107. Cost recovery index of municipal wastes (R)</li> <li>- 108. Destination of household wastes (R)</li> <li>- 109. Collection rate of household wastes (R)</li> </ul> </li> <li>4.5 Air quality <ul style="list-style-type: none"> <li>- 110. Emissions of greenhouse gases (P)</li> <li>- 111. Emissions of sulphur oxides (P)</li> <li>- 112. Emissions of nitrogen oxides (P)</li> <li>- 113. Consumption of ozone depleting substances (P)</li> <li>- 114. Frequency of excess over air standard (ozone) (S)</li> <li>- 115. Expenditure on air pollution abatement (R)</li> <li>- 116. Share of clean fuels consumption in total motor fuels consumption (R)</li> <li>- 117. Share of agglomerations over 100 000 inhabitants equipped with an air pollution monitoring network (R)</li> </ul> </li> <li>4.6 Natural and technological risks <ul style="list-style-type: none"> <li>- 118. Number of sites with high risk (P)</li> <li>- 119. Economic impact of natural disasters (S)</li> <li>- 120. Burnt area per year (S)</li> <li>- 121. Existence of intervention plans (R)</li> </ul> </li> <li><b>5. The sustainable development: Actors and policies</b></li> <li>5.1 Actors of the sustainable development <ul style="list-style-type: none"> <li>- 122. Number of direct employments linked to the environment (R)</li> <li>- 123. Number of associations involved in environment and/or sustainable development (R)</li> <li>- 124. Number of enterprises engaged in "environment management" processes (R)</li> </ul> </li> <li>5.2 Policies and strategies of the sustainable development <ul style="list-style-type: none"> <li>- 125. Public expenditure on environmental protection as a percent of GDP (R)</li> <li>- 126. Existence of environment national plans and/or sustainable development strategies (R)</li> <li>- 127. Number of Agendas 21 adopted by local authorities (R)</li> </ul> </li> <li><b>6. Exchanges and cooperation in the Mediterranean</b></li> <li>6.1 International trade, free trade zone and environment <ul style="list-style-type: none"> <li>- 128. Openness rate of GDP (P)</li> </ul> </li> <li>6.2 Other Mediterranean exchanges <ul style="list-style-type: none"> <li>- 129. Net migration rate (P)</li> </ul> </li> <li>6.3 Mediterranean cooperation in the fields of environment and sustainable development <ul style="list-style-type: none"> <li>- 130. Public development assistance coming from abroad (R)</li> </ul> </li> </ul>
United Nations	Indicators of sustainable	<b>Social aspects</b> <ul style="list-style-type: none"> <li>• Combating poverty</li> </ul>

International Organisation	Name of indicator set	List of indicators and indicator themes
	<p>development. Framework and methodologies.</p> <p>This set is not shown to full detail (at indicator level) since the set has been further developed after the testing phase. See UNCSD Core set</p>	<ul style="list-style-type: none"> <li>• Demographic dynamics</li> <li>• Promoting education, public awareness and training</li> <li>• Protecting and promoting human health</li> <li>• Promoting sustainable human settlement development</li> </ul> <p><b>Economic aspects</b></p> <ul style="list-style-type: none"> <li>• International co-operation to accelerate SD in countries and related domestic policies</li> <li>• Changing consumption patterns</li> <li>• Financial resources and mechanisms</li> <li>• Transfer of environmentally sound technology, cooperation and capacity-building</li> </ul> <p><b>Environmental aspects</b></p> <p><u>Water</u></p> <ul style="list-style-type: none"> <li>• Protection of the quality and supply of freshwater resources</li> <li>• Protection of the oceans, all kinds of seas and coastal areas</li> </ul> <p><u>Land</u></p> <ul style="list-style-type: none"> <li>• Integrated approach to the planning and management of land resources</li> <li>• Managing fragile ecosystems: combating desertification and drought</li> <li>• Managing fragile ecosystems: sustainable mountain development</li> <li>• Promoting sustainable agriculture and rural development</li> </ul> <p><u>Other natural resources</u></p> <ul style="list-style-type: none"> <li>• Combating deforestation</li> <li>• Conservation of biological diversity</li> <li>• Environmentally sound management of biotechnology</li> </ul> <p><u>Atmosphere</u></p> <ul style="list-style-type: none"> <li>• Protection of the atmosphere</li> </ul> <p><u>Waste</u></p> <ul style="list-style-type: none"> <li>• Environmentally sound management of solid wastes and sewage-related issues</li> <li>• Environmentally sound management of toxic chemicals</li> <li>• Environmentally sound management of hazardous wastes</li> <li>• Safe and environmentally sound management of radioactive wastes</li> </ul> <p><b>Institutional aspects</b></p> <ul style="list-style-type: none"> <li>• Integrating environment and development in decision-making</li> <li>• Science for sustainable development</li> <li>• International legal instruments and mechanisms</li> <li>• Information for decision-making</li> </ul> <p>Strengthening the role of major groups</p>
	<p>CSD Theme Indicator Framework and specified indicators.</p>	<p><b>CATEGORY SOCIAL</b></p> <p><b>THEME EQUITY</b></p> <p><b>Sub-theme Poverty (3), Indicator:</b> Percent of Population Living below Poverty Line Gini Index of Income Inequality Unemployment Rate</p> <p><b>Sub-theme Gender Equality (24), Indicator:</b> Ratio of Average Female Wage to Male Wage</p> <p><b>THEME HEALTH (6)</b></p> <p><b>Sub-theme Nutritional Status, Indicator:</b> Nutritional Status of Children</p> <p><b>Sub-theme Mortality, Indicator:</b> Mortality Rate Under 5 Years Old Life Expectancy at Birth</p> <p><b>Sub-theme Sanitation, Indicator:</b> Percent of Population with Adequate Sewage Disposal Facilities</p> <p><b>Sub-theme Drinking Water, Indicator:</b> Population with Access to Safe Drinking Water</p> <p><b>Sub-theme Healthcare Delivery, Indicator:</b> Percent of Population with Access to Primary Health Care Facilities Immunization Against Infectious Childhood Diseases Contraceptive Prevalence Rate</p>

International Organisation	Name of indicator set	List of indicators and indicator themes
		<p><b>THEME EDUCATION (36)</b>  <b>Sub-theme Education Level, Indicator:</b>  Children Reaching Grade 5 of Primary Education</p> <p>Adult Secondary Education Achievement Level</p> <p><b>Sub-theme Literacy, Indicator:</b>  Adult Literacy Rate</p> <p><b>THEME HOUSING (7)</b>  <b>Sub-theme Living Conditions, Indicator:</b>  Floor Area per Person</p> <p><b>THEME SECURITY</b>  <b>Sub-theme Crime (36, 24), Indicator:</b>  Number of Recorded Crimes per 100,000 Population</p> <p><b>THEME POPULATION (5)</b>  <b>Sub-theme Population Change, Indicator:</b>  Population Growth Rate  Population of Urban Formal and Informal Settlements</p> <p><b>CATEGORY ENVIRONMENTAL</b></p> <p><b>THEME ATMOSPHERE (9)</b>  <b>Sub-theme Climate Change, Indicator:</b>  Emissions of Greenhouse Gases</p> <p><b>Sub-theme Ozone Layer Depletion, Indicator:</b>  Consumption of Ozone Depleting Substances</p> <p><b>Sub-theme Air Quality, Indicator:</b>  Ambient Concentration of Air Pollutants in Urban Areas</p> <p><b>THEME LAND (10)</b>  <b>Sub-theme Agriculture (14), Indicator:</b>  Arable and Permanent Crop Land Area  Use of Fertilizers  Use of Agricultural Pesticides</p> <p><b>Sub-theme Forests (11), Indicator:</b>  Forest Area as a Percent of Land Area  Wood Harvesting Intensity</p> <p><b>Sub-theme Desertification (12), Indicator:</b>  Land Affected by Desertification</p> <p><b>Sub-theme Urbanization (7), Indicator:</b>  Area of Urban Formal and Informal Settlements</p> <p><b>THEME OCEANS, SEAS AND COASTS (17)</b>  <b>Sub-theme Coastal Zone, Indicator:</b>  Algae Concentration in Coastal Waters  Percent of Total Population Living in Coastal Areas</p> <p><b>Sub-theme Fisheries, Indicator:</b>  Annual Catch by Major Species</p> <p><b>THEME FRESH WATER (18)</b>  <b>Sub-theme Water Quantity, Indicator:</b>  Annual Withdrawal of Ground and Surface Water as a Percent of Total Available Water  <b>Sub-theme Water Quality, Indicator:</b>  BOD in Water Bodies  Concentration of Faecal Coliform in Freshwater</p> <p><b>THEME BIODIVERSITY (15)</b>  <b>Sub-theme Ecosystems, Indicator:</b></p>

International Organisation	Name of indicator set	List of indicators and indicator themes
		<p>Area of Selected Key Ecosystems Protected Area as a % of Total Area</p> <p><b>Sub-theme Species, Indicator:</b> Abundance of Selected Key Species</p> <p><b>CATEGORY ECONOMIC</b> <b>THEME ECONOMIC STRUCTURE (2)</b> <b>Sub-theme Economic Performance, Indicator:</b> GDP per Capita Investment Share in GDP</p> <p><b>Sub-theme Trade, Indicator:</b> Balance of Trade in Goods and Services</p> <p><b>Sub-theme Financial Status (33), Indicator:</b> Debt to GNP Ratio Total ODA Given or Received as a Percent of GNP</p> <p><b>THEME CONSUMPTION AND PRODUCTION PATTERNS (4)</b> <b>Sub-theme Material Consumption, Indicator:</b> Intensity of Material Use</p> <p><b>Sub-theme Energy Use, Indicator:</b> Annual Energy Consumption per Capita Share of Consumption of Renewable Energy Resources Intensity of Energy Use</p> <p><b>Sub-theme Waste Generation and Management (19-22), Indicator:</b> Generation of Industrial and Municipal Solid Waste Generation of Hazardous Waste Generation of Radioactive Waste Waste Recycling and Reuse</p> <p><b>Sub-theme Transportation, Indicator:</b> Distance Travelled per Capita by Mode of Transport</p> <p><b>CATEGORY INSTITUTIONAL</b> <b>THEME INSTITUTIONAL FRAMEWORK (38, 39)</b> <b>Sub-theme Strategic Implementation of SD (8), Indicator:</b> National Sustainable Development Strategy</p> <p><b>Sub-theme International Cooperation, Indicator:</b> Implementation of Ratified Global Agreements</p> <p><b>THEME INSTITUTIONAL CAPACITY (37)</b> <b>Sub-theme Information Access (40), Indicator:</b> Number of Internet Subscribers per 1000 Inhabitants</p> <p><b>Sub-theme Communication Infrastructure (40), Indicator:</b> Main Telephone Lines per 1000 Inhabitants</p> <p><b>Sub-theme Science and Technology (35), Indicator:</b> Expenditure on Research and Development as a Percent of GDP</p> <p><b>Sub-theme Disaster Preparedness and Response, Indicator:</b> Economic and Human Loss Due to Natural Disasters</p> <p><i>Numbers in brackets indicate relevant Agenda 21 chapters.</i></p>

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