European Commission
EUROSTAT

SUSTAINABLE DEVELOPMENT INDICATORS AND NATIONAL ACCOUNTS

10ème colloque de comptabilité nationale

CONTENT

An indicator is '... a set of statistics serving as a proxy or metaphor for phenomena not directly measurable.' (Cobb and Rixford (1998): Lessons Learned from the History of Social Indicators)

Introduction

This document (except the annexes) was intended as input for discussion with participants at the May 2003 OECD workshop about the utilisation of accounting frameworks for sustainable development indicators. The main purpose of this document is to provide some *elements* for discussing possible strategies towards statistical frameworks and possible directions for future work.

1. The document first tries to identify the various dimensions along which discussions about *frameworks* for sustainable development indicators and strategies for statistics might evolve. Main purpose of this first part is to facilitate keeping these different dimensions apart in discussion. The document then identifies the *main objectives* and implications of using a framework based on the system of national accounts as a model. Finally, some possible *initial steps* towards statistical frameworks for sustainable development indicators are offered from the accounting side.

The annexes present the work of the European Statistical System (ESS) Task Force on methodological issues for sustainable development indicators, and a preliminary list of indicators which has been defined by the Task Force.

Concept of sustainable development

2. The concept of sustainable development includes a very wide range of topics. It includes a *long-term perspective* with long time horizons *and multiple objectives* such as social, economic, environmental, institutional ones that should be met *simultaneously* and in a *balanced* way. Thus, trade-offs among the different objectives should be identified and minimised. This amounts to a need for systems management, which often entails an element of institutional reform such as better co-operation among government agencies, or integration of economic, environmental and social objectives into sectoral policies.

3. Sustainable development is about balancing *present* and *future needs*. Rich countries are more capable to orient their policy towards future needs than poor countries. One might expect that the specific focus and contribution of sustainable development policies would then be on *looking at a wide range of topics simultaneously* so as to sustain present levels of well being into the *future*. (This entails the question which issues governments leave to individual policy areas and which are addressed by a sustainable development policy.)

4. The implementation of sustainable development policy may require a lot of relatively small steps into the 'right' direction. Due to uncertainties, interdependencies and the need to handle trade-offs the definition and determination of these small steps may be a fairly complex task. Generally accepted models of sustainable development and how to achieve it, and clear and quantified policy targets are only just developing and not yet very common.

Statistical policy

5. In principle it is clear that the statistical *monitoring should be closely related* to the vision of sustainable development and the discussion of longer-term policy objectives. However, to the extent that sustainable development is not yet sufficiently operationalised and converted into specific policy objectives and targets, the indicators will *have to reflect what is considered important* in current science and policy discussions.

6. Information systems for sustainable development policies would ideally focus on topics - and the interdependencies among these topics - which *matter in the long term*. It has been suggested that

the time horizon of concern exceeds, in principle, 30 years (the average remaining lifetime of the current population). The upper limits of the time horizon are set by the uncertainties of predicting future development.

7. The statistical approach will thus have to evolve with the developments in science and policy. Under these circumstances, the statisticians' job does not seem to be easy. On the one hand, high-level policy demand seems to make it imperative to provide key up-to-date indicators (quickly), to improve quality and timeliness of these indicators (quickly), and to work on frameworks and consistency of indicators so as to support the use of the indicators in policy making and analysis. On the other hand, views in science and policy are still evolving so that heavy investments and changes to the statistical system justified by 'sustainable development needs' alone may not be very efficient.

8. Sustainability is applied at different *scales*, for example communities, districts, regions, nations, supranational levels. E.g. agenda 21 has been quite successful at the local level (including in the U.S.). Different scales will imply focusing on different things within a pillar and across pillars reflecting e.g. key concerns or competencies at that scale. This entails the question how policies and indicator sets at one level relate to other levels, and how they can support one another.

Important tasks for sustainability indicators

User orientation

9. Using the indicators (that is: interpreting them) is an issue with many facets. There are *several user groups* - the general public, the media, researchers, policy makers – which are interested, in different uses (e.g. communication with the general public, analysis of the underlying mechanisms and reasons for change).
The use of indicators for benchmarking countries requires *international comparability*, or at least that the effects of differences in concepts and methods be known. Specific national circumstances will often have a major impact on the levels and the trends shown by indicators so that understanding these circumstances is crucial for proper interpretation.

Time and timing of SDI

10. SD is about managing a (complex) process in time. The time dimension is thus important. Time and timing are also important for a statistical strategy towards sustainable development and essential for getting the layers of the discussion separated. For the SD indicators the *longer-term trends* are an issue. This will often mean that longer time series are needed (so that trends can be established and e.g. cyclical swings can be removed). This will also mean that for the indicators at least the 'good' direction should be known. While the vision of sustainable development is about the long-term, *delivering SD* indicators to policy makers has been about the *very short term* and a matter of urgency for statisticians recently. Developing an information system as part of statistical sustainable development work requires specifying the steps to be taken and to time these steps.

Co-operation

11. In a wide sense, frameworks may be seen as a structure for, or model of, how something works (or should work). Even if we only focus on statistical production, we may need different frameworks for different aspects. For example, responding to SD data needs involves a wide range of statistics and therefore also of statistics-producing institutions or different units within one institution. This requires good *co-operation* and *co-ordination* within and across institutions. A structure for co-ordinating the different data producing bodies is perhaps a good idea. Another issue is a structure for storing and presenting the data in a user-friendly way. It may be useful to distinguish the following key aspects:

- how to organise data production (incl. relations among data producers)
- how to organise the data (e.g. structures of databases)

- how to report/present the indicators to users (e.g., structures of reports, elements of analysis in these reports)
- visualise their usability (e.g. results from Accounting as examples for their contribution)

Main approaches to SD in the light of SEEA

12. It may be helpful to categorise the approaches to SD to illustrate differences in focus. The following typology is taken from the new System of Environmental and Economic Accounting (SEEA). Other categorisations are of course possible.
The *SEEA* distinguishes:

- the three-pillars approach (with sometimes a fourth – institutional – pillar),
- the ecological or ecosystem health approach,
- the capital approach.

13. The *three-pillars approach* views SD as referring simultaneously to economic, social and environmental systems, all of which must be simultaneously sustainable, because each of the three pillars is independently crucial and because the three pillars are interconnected. (There is, therefore, a risk of causing problems in one system while attempting to correct problems in another. This is to be avoided by integrating decisions such that effects in all three systems are considered before action is taken.)

14. The *ecosystem health approach* considers the economic and social systems as sub-systems of the global environment. The key property to be sustained is the capacity of ecosystems to respond with resilience to external perturbations and changes. The "health" of ecosystems must be protected and enhanced. Ecosystem health is a metaphor derived from the human health sciences that is difficult to define precisely. The ecosystem health approach implies focusing on:

- the "pressures" placed on ecosystems by human activities (material and energy extraction, physical restructuring, pollutant emissions, human appropriation of space and ecosystem productivity, etc.). These pressures are often the cause of reduced ecosystem health as manifested in degraded service flows and/or reduced management options.
- the responses of ecosystems to these pressures. This can include e.g. measures that describe the state of ecosystems and measures of the capability of ecosystems to deal with imposed pressures.

15. The *resources or capital approach* views sustainable development as development that ensures non-declining per capita national wealth by replacing or conserving the stocks of produced, human, social and natural capital. The capital approach to sustainable development broadens the concept of economic capital by integrating concepts from physical and social sciences to include measures of (or indicators for) human, social, natural and environmental capital.

16. The capital approach is related to the *economic concept of income*. For a nation this income can be defined as the amount that it can collectively consume during a period without depleting the capital base (or wealth) upon which it relies to generate this income. Ideally (from a perspective of economics) the conventional monetary measures of income and of capital would be expanded to include the additional aspects important for sustainability in monetary terms (such as social or environmental capital and the services these provide). It is however widely accepted that at present the conceptual and practical difficulties of valuing all these additional aspects are large so that it would be difficult to generate reliable expanded measures for a nation. In practice, therefore, the capital approach will describe environmental or human or social capital by indicators of the state of these forms of capital, or even indicators for the changes in their state (e.g., crime rates, air emissions, level of education of the population and education expenditure).

17. The types of approaches presented above are not as mutually exclusive as it may seem. Sustainable development policies formulated by governments may not lead to very different sets of indicators even if inspired by one rather than another of these ideal types. In particular, the three-pillar approach and the capital approach may result in relatively *similar sets of indicators*. Conceptually, the three-pillar approach to sustainable development is the most wide-ranging and complex as it includes (in principle) the aspiration of managing each pillar as well as the relations among the pillars. A statistical framework that copes with all the data needs implied by this approach in an integrated way might thus be the rather demanding. One might expect that the 'capital' and 'ecological' approaches are somewhat easier because one of the pillars is more central so that (perhaps) fewer links will have to be taken into account.

Integrated information systems for SDI

18. The development of a structured statistical approach towards compiling SD indicators seems to be useful. A *set of core indicators that is linked to an integrated information system* serves internal uses (nowcasting, consistency checks, improving data quality, efficiency of statistical production, greater use that can be made of the results collected) as well as simultaneously serving different user groups (those interested in major trends – the general public, the media, etc. – and researchers and policy analysts interested in detailed analysis, forecasts and scenario modelling).

19. Such a framework should support the *integration of diverse data sources*. For example, the primary data used for environmental accounting are mainly the detailed national accounts data plus a wide range of statistical and administrative sources available at statistical offices, ministries, regional administrations, specialised institutions (e.g. forestry institutes) and environmental agencies. The key task of environmental accountants in Member States is to collect these diverse data, make the data consistent with national accounts, integrate the data and estimate missing data. Such a system can be used to directly set up accounts (and derive indicators such as material use of the economy or water use by industry) by integrating initially dispersed and inconsistent data sets.

The national accounts as a consistent database for SDI

20. The *national accounts* are a system that is used worldwide to integrate economic and some social statistics and to create consistent data sets and indicators for economic policy and analysis. The national accounts are a fully integrated information pyramid that allows extracting information at different levels of aggregation. This framework is also widely used for now-casts and for forecasts.

21. The conventional national accounts themselves already directly *provide indicators* for sustainable development indicator sets covering the economic pillar, some elements of the social pillar (such as employment and household income) and through this provide links between the economic and the social pillar.

22. The conventional national accounts can readily be expanded with additional modules. In several Member States work has been done on Social Accounting providing more detail on the level of education, on types of households etc. Member States have also established *Environmental Accounts* which integrate the environmental dimension with the national accounts (the links between the economic and environmental dimension) and provide already some indicators for parts of the environmental pillar (such as global warming potential and environmental protection expenditure).

23. Such an expanded data set is what is needed for policy analysis and research. Such a data set links the aggregate set of indicators with the underlying detail in a consistent way. A key advantage of an accounting approach is that it allows making more out of the primary data. This is in particular true when the basic information is incomplete. Detailed information systems are a key requirement for the reliable estimation of up-to-date indicators. The key requirements for such an expanded accounting system (or in other words an integrated information system) is the use of *common classifications* and

concepts across all areas (a key set of indicators fully consistent and linked by one common classification). At the international level, the new System of Integrated Environmental and Economic Accounting (*SEEA*) provides a framework for sustainable development Indicators.

24. If indicators are to be related, they should refer to the same basic entity that will typically be a nation's economy, population or territory. For the key links, at least the totals of the indicators should be consistent. If they are not, it is possible to provide '*bridge tables'* that allow for the transition from one concept to another.

Possible steps towards sustainable development statistics

25. For statistics, a key implication of sustainable development is a call for greater integration of statistics. That is to say, *greater consistency* among, and *better integration* of, areas of statistics and a *better co-ordination* of the different institutions that provide the basic data. It is clear that a fair degree of flexibility will be required from statistics to adapt to the (likely) future changes in policy and science.

26. A current obstacle for setting up a statistical framework for SD Indicators is the large number of different sets of indicators at international and national level. The accounting framework is able to deliver important inputs for SD Indicators. However, a *common approach* towards statistical implementation of key SD Indicators is necessary: Therefore, much closer co-operation in basic data methodology and collection is essential for success.

27. *Practical statistical work* should cover, inter alia, the following activities:

- Move definitions and classifications in different fields closer together (long-term statistical policy issue);
- improve primary data collection where possible;
- develop adequate estimation procedures to ensure complete coverage and consistency.

28. The existing economic indicators should be a *model* for the improvement of Environmental Indicators. There are a great variety of working indicators for analysts and scientists BUT there is a small set of headline indicators that is used and understood by all the different above mentioned users (the general public, the media, policy makers).

This small *number of headline indicators* (GNP, inflation and unemployment rate, etc.) is used to describe the state of the economy of a country and is accepted worldwide. Therefore it would be an important step to work on ONE common core set of (environmental related) Sustainable Development Indicators to describe the state of the environment of a country and its progress towards sustainability.

29. Sustainable development is about the long term and about integrating social, economic and environmental policymaking. This also applies to statistics. When indicator lists will mature, structure will need to be added at various levels. For example:

- analyse and establish the key 'causal' links among indicators. It may be assumed that not all indicators must be linked to all others but that it will be possible to identify a limited set of main links within and across the pillars;
- for those key links, check the consistency among indicators. Indicators do not always seem to be identical in coverage or they describe different underlying entities. For example, the relation between transport statistics, air emissions and national accounts may be an issue.
- structuring the indicators system (incl. on a database) such that the analysis of interdependencies among indicators is made possible. Statistical offices will not have to do this analysis themselves but may want to offer a structured database to policy analysts and researchers.

Annex 1:

The mandate of the Task Force on methodological issues for sustainable development indicators

Following the adoption of an EU Strategy for Sustainable Development[1] by the Göteborg European Council in June 2001 (see Council Conclusions in SDI/TF/002B/02(2202)), the Statistical Programme Committee (SPC) agreed to set up a Task Force to develop a common response from the European Statistical System to the need for Indicators for Sustainable Development.

The EU Sustainable Development Strategy builds on the Lisbon strategy, completing the Union's political commitment to economic and social renewal by adding a third, environmental dimension. The Gothenburg Council singled out a number of objectives and measures as general guidance for future policy development in four priority areas: *climate change, transport, public health and natural resources*, to be added to the commitments already made at the Lisbon, Nice and Stockholm summits of *combating poverty and social exclusion* and *dealing with the economic and social implications of an ageing society.*

Key elements of the Task Force mandate

In September 2001, Eurostat submitted a paper to the SPC on "Key indicators for sustainable development". This paper set out the short-term actions dictated by the need to add an environmental dimension to the structural indicators set, and proposed the creation of a European Statistical System (ESS) Task Force for mid to long-term action on methodological issues for sustainable development indicators. The main tasks of the Task Force were identified as follows:

1. Playing an active role in work in identifying indicators for sustainable development, so that statistical issues will be considered and so that the necessary statistics are compiled, using experiences from Member States in order to achieve common approaches at EU level.
2. Analysing/developing suitable frameworks for statistical work on indicators of sustainable development (balance between existing analytical frameworks, e.g. extensions of national accounts, verification of research theoretical work on sustainability, etc.)
3. Acting as a mediator and facilitator on sustainability-related themes for relevant working groups on social, economic and environmental statistics.

The SPC unanimously approved the creation of the Task Force and raised the following points for the Task Force to consider:

- Further elaboration of the aims of the Task Force;
- co-ordination between users and producers of indicators, so that indicator identification and analysis will be facilitated;
- developments in other international fora;
- the formulation of a multi-dimensional approach, bringing together the socio-economic and environmental statistical components;
- a timetable, including a proposed date for completion of its work;
- undertaking of a wide-ranging review of existing SDI-related initiatives, including a specific contribution from environmental accounting.

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[1] The Commission Communication 'A Sustainable Europe for a Better World: A European Strategy for Sustainable Development' (COM(2001)264) which formed the basis of the sustainable development strategy agreed by the Göteborg European Council is given in SDI/TF/002A/02(2002).

The overall policy and SDI-related indicator work

The overall objective of work on SDIs is to respond to data requirements for analysis of sustainable development.

In particular, *adequate indicators for sustainable development are a primary tool to provide guidance for decision making and monitoring of policies.*

The global dimension of these issues has to be fully recognised, in particular the importance of an indicator system for sustainable development harmonised to the greatest extent possible at international level, both from the standpoint of statistics (harmonised definitions, classification and methodologies) and policy. This aim was reiterated at the last UN Commission for sustainable Development (UNCSD) Ninth Session held in April 2001. At that meeting it was stated that "*enhancing information for decision-making in order to achieve sustainable development will require international co-operation and actions compatible with national priorities and circumstances*".

Work on Sustainable Development Indicators has been going on in Eurostat for several years. This has consisted mainly of co-operation with the UNCSD on indicator definition and methodologies and the production of two indicator publications based on the UN list and methodology (see also SDI/TF/003/03.1(2002). The adoption in Gothenburg of an EU Strategy brings with it the need for specific EU indicators to monitor the implementation, progress and the effectiveness of the EU sustainability policy strategy.

Work on environment related indicators is on-going in several areas, e.g. transport, energy, agriculture, environmental pressures, and in other fora, e.g. the EEA's Environment Signals, UN development indicators, OECD de-coupling indicators, etc. and this work should be co-ordinated as far as possible and synergies built with the SDIs.

The Gothenburg sustainable development strategy is strictly linked with the so-called Lisbon process, in order to monitor key economic, social and environmental objectives of the EU (see document SDI/TF/004/03.2(2002)). The December 2001 Environment Council asked the Commission to analyse the feasibility of producing the indicators on an 'open list' drawn up by the Council Working Group on the Environment, an open list clearly based on the Göteborg Sustainable Development Strategy, i.e. focusing on the environmental dimension of SD.

Why a Task Force?

Developing a more structured approach towards SD indicators is absolutely essential for the statistical system to be able to respond quickly and efficiently to policy needs. Structure may be added in various ways. As a minimum, the relationship between the various indicators lists has to be established and hierarchical linking of indicators ensured where one indicator directly contributes to another (e.g. unemployment and unemployment of young workers). Indicators are not always identical in coverage or concepts so that greater harmonisation and consistency among SD indicators will be an issue. In the longer term, the indicators will need to be put in a system (including on a database) so that an analysis of interdependencies between indicators becomes possible.

The variety of solutions on indicators adopted at national level, due to the (legitimate) prevalence of national considerations and also to the lack (before June 2001) of a specific EU Strategy on SD, are specific factors pushing for an active role by the ESS in finding commonalities capable to create, when suitable and feasible, harmonised tools that may be used by the EU as a whole.

Moreover, it is a fact that a certain degree of convergence will have to be reached in any case, given that the EU SD Strategy foresees that Member States draw up their own national SD strategies. Therefore, the SD policies will be monitored for all the EU15. This implies the use of a common language to interpret the progress achieved, or not achieved, towards sustainability.

To this end, the primary reference for the indicator work of the Task Force will be the 2+4 priority SD areas, identified by the Stockholm EU Council (March 2001) in relation to the two main economic and

social sustainability areas [2] and by the Gothenburg EU Council in relation to the four environmental priorities for sustainability.[3]

But Sustainable Development is more than just lists of indicators for each of the three areas. The links between the three areas need to be developed, if the indicators are to tell a full story and permit analysis and sound policy making. This may require the development of a solid framework for the indicator work, and one of the tasks of the Task Force is to examine the need for a framework, and if necessary, to identify the most appropriate framework in the EU context. SD indicators come from a wide range of statistics and data sources. This requires co-operation and co-ordination among areas of statistics and between statistical institutes and other data gathering organisations.

Although the indicators must be policy relevant, this does not mean that the Statistical System should be reactive, waiting for indicators lists to come from above and then struggling to respond to sometimes impossible demands. Rather there is a need to be pro-active, to provoke dialogue with the users of the indicators, mainly policy makers, so as to identify the most relevant, reproducible, and cost effective indicators. This is essential as the production of indicators may involve important upheavals in the statistical system, e.g. expansion of nomenclatures, extension of existing surveys, re-allocation of scarce resources. It is important that any such upheavals are fully justified by an enduring need for the data, not just the 'flavour of the month', which are no longer of interest by the time the statistical system has adjusted to produce the information. This dialogue may turn out to be a long and sometimes painful process, but almost every country which has developed its own SDIs has gone through this process, and the Task Force should build on their experiences.

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[2] The social SD areas are: poverty and social exclusion (social cohesion) and ageing population, demography and labour market (including unemployment).

[3] The four priority areas for environmental sustainability include the following objectives: combating climate change, ensuring sustainable transport, addressing threats to public health and managing natural resources.

Annex 2:

Preliminary List of SDIs
Version of 10 December 2003

('best available' indicators are presented in normal text and 'best needed' indicators in Italics)

THEMES **Level I**	**Sub-Themes** **Level II**	**Areas to be addressed** **Level III**	**Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)**
ECONOMIC DEVELOPMENT *** Still under discussion:** *Indicators on Changes in real effective exchange rate, Breakdown of value added by branches (for various themes), Impact of international migrations on employment/unemployment, Treatment and presentation of regional disparities*			

Growth rate of GDP per capita at constant prices (2000=100)	Growth rate of GDP at constant prices (2000=100)	GDP per capita in Purchasing Power Standards (EU 15=100) Total Investment (Total gross fixed capital formation as a percentage of GDP) Public Investment (gross fixed capital formation by the public sector as a percentage of GDP. Business investment (gross fixed capital formation by the private sector as a percentage of GDP) R&D expenditures (gross domestic expenditure on R&D as a % of GDP) Private Consumption growth rate (% change in final consumption by households – 2000=100) Disposable income growth rate (% change in disposable income by households – 2000=100) Inflation growth rate (%change (% change in harmonised indices of consumer prices by households – 2000=100) National savings (current account balance as a % of GDP) Households savings (savings of private households as a % of disposable income) Public balance (net borrowing/leading of consolidated general government sector as a percentage of GDP) General government consolidated net debt as a percentage of GDP Labour productivity (GDP in pps per hour worked – EU 15=100) Unit labour cost growth (Growth rate of the ratio compensation per employee divided by GDP - both in current prices - per total employment: Total and for manufacturing industry)	EC Lisbon2000: An average economic growth rate of around 3% a realistic prospect for the coming years. EC Cardiff1998: Public sector budgetary deficit to be less than 3% of GDP and gross debt less than 60% of GDP. The inflation rate of a given Member State must not exceed by more than 1½ percentage points that of the three best-performing Member States in terms of price stability.

	Total employment growth (Annual % change in total employed population) Total unemployment rate (unemployment persons as a share of the total active population)	Total employment rate, by age, gender, qualification Total unemployment rate, by age, gender, qualification Life-long learning (% of the population aged 25-64 participating in education and training)	Raise the employment rate to 67% for January 2005 and to 70% by 2010; increase the number of women in employment to 57% for January 2005 and to more than 60% by 2010. Increase the average EU employment rate among older women and men (55-64) to 50% by 2010. EC Lisbon2000: A substantial annual increase in per capita investment in human resources. Provide new basic skills through lifelong learning of IT skills, foreign languages, technological culture, entrepreneurship and social skills.
THEMES Level I	**Sub-Themes Level II**	**Areas to be addressed Level III**	**Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)**
POVERTY and SOCIAL EXCLUSION			
At-risk-of-poverty rate at the level of the total population	At-risk-of-poverty rate for children aged 0-15	Persistent at-risk-of-poverty rate Median relative at-risk-of-poverty gap At-risk-of-poverty rate according to European rate line in PPS or Illustrative value of at-risk-of-poverty threshold in PPS At-risk-of-poverty rate anchored at a point in time Gini coefficient or s80/s20 income quintile share ratio	Make a decisive impact on the eradication of poverty
	Long-term unemployment rate	Very long-term unemployment rate Jobless households Dispersion of regional employment rates In-work risk-of-poverty rate Total income tax on gross wage earnings	Halve by 2010 the number of 18 to 24 years olds with only lower secondary education who are not in further education and training EC Lisbon2000: Increased social cohesion by 2010

	Early school leavers not in further education or training	Low educational attainment (age 25-34 and 55-64) Mean number of years schooling completed or at-risk-of-poverty rate by educational attainment level Proportion of population living in household suffering at least one of the following: noise, shortage of space, accommodation too dark, pollution, crime in area	
AGEING SOCIETY * Still under discussion the place in the framework of indicators on Migrations (see also Economic Development), Employment rate of older workers (55-64), Access to health care for elderly persons, Population age structure by region			
At-risk-of-poverty rate for persons aged 65+	Ratio of median household income of persons aged 65+ to median household income of persons aged <65	Projected theoretical replacement ratio	EC Stockholm2001: Address the demographic challenge by raising employment rates, reducing public debt and adapting social protection systems, including pension systems Ensure the adequacy of pension systems as well as of health care systems and care of the elderly, while at the same time maintaining sustainability of public finances and inter-generational solidarity.
	Current and projected old age dependency ratio (65+ to 15-64)	Life expectancy at age 0 Life expectancy at age 65 Total fertility rate	
	Employment rate of older workers (55-64)	Effective average age of withdrawal from labour market Pensions expenditure as % GDP	

THEMES **Level I**	**Sub-Themes** **Level II**	**Areas to be addressed** **Level III**	**Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)**
PUBLIC HEALTH			
Average life expectancy at birth *Disability-free life expectancy* *Dependency free life*	Premature mortality Infectious diseases and Antibiotics consumption *Total consumption of antibiotics (inc. agriculture)* Body mass index *Alcohol consumption, Narcotics &* ***Smoking***	Declared state of health Suicides Accidents at work New cancers diagnosed	Tackle issues related to outbreaks of infectious diseases and resistance to antibiotics. 6EAP: Contributing to a better quality of life through an integrated approach concentrating on urban areas. PoI2002: Enhance health education with the objective of achieving improved health literacy on a global basis by 2010.
	Residues of pesticides in food	Salmonella cases	Make food safety and quality the objective of all players in the food chain. 6EAP: Reducing the impacts of pesticides on human health and the environment and to achieve a more sustainable use of pesticides as well as a significant overall reduction in risks and of the use of pesticides consistent with the necessary crop production. Achieving quality levels of ground and surface water that do not give rise to significant impacts on and risks to human health and the environment.

	Contents of toxins in breast milk, blood and fish *Chemical index*		By 2020, ensure that chemicals are only produced and used in ways that do not pose significant threats to human health and the environment. 6EAP: Dangerous chemicals (especially PBTs) should be substituted with the aim of reducing risks to man and the environment (ground and surface water, air quality). PoI2002: in line with SDS & 6EAP
	Safe drinking water (% of failed tests)	Exceedance of air quality thresholds % of households exposed to noise *Respiratory diseases* *% of households exposed to noise + % of population affected by noise*	6EAP: Achieving levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment. Substantially reducing the number of people regularly affected by long-term average levels of noise.

THEMES Level I	Sub-Themes Level II	Areas to be addressed Level III	Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)
CLIMATE CHANGE AND ENERGY *** Still under discussion:** Indicator *CO2 efficiency*, Indicator *Carbon sinks*			
GHG emissions vs. Kyoto target Gross inland energy consumption (breakdown by fuel)	GHG emission (breakdown by sector)	*	Meet the Kyoto commitment. However, Kyoto is but a first step. Thereafter, the EU should aim to reduce atmospheric greenhouse gas emissions by an average of 1% per year over 1990 levels up to 2020. EC Gothenburg2001: Achieve demonstratable progress in the reduction of GHG emission by 2005.
	Electricity production by fuel Energy intensity Final energy consumption by sector	Combined heat and power generation Nuclear waste generation vs. Disposal Energy efficiency by sector or by specific industries Energy prices/taxes/subsidies Fuel poverty	6EAP: Doubling the overall share of Combined Heat and Power in the Community as a whole to 18% of the total gross electricity generation. EC Brussels2003: (*revised SDS objective*) Increase the share of renewable energy with a EU-wide indicative target for renewable energy of 12% of primary energy needs and 22% of electricity needs by 2010. Promotion of 5,75% target for the use of biofuels in transport by 2010. PoI2002: Remove market distortions, including the restructuring of taxes and phasing out of harmful subsidies. Establish domestic programmes of energy efficiency, with the support of the international community.

THEMES Level I	Sub-Themes Level II	Areas to be addressed Level III	Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)
PRODUCTION AND CONSUMPTION PATTERNS			
Domestic material consumption (DMC) Total material consumption (TMC)	Emissions of aggregated acidifying substances, ozone precursors and GDP Municipal waste collected *Generation of waste by all economic activities and by households*	Water use (surface and groundwater)/available resources *Water use exceeding replenishment rate* Municipal waste treatment (recovery, land-filling, incineration) *Generation of hazardous waste by economic activities* BOD loading of rivers *Emissions of nutrients to water bodies* *Emissions of heavy metals*	Break the links between economic growth, the use of resources and the generation of waste. The Common Agricultural Policy contributes to achieving sustainable development by encouraging healthy, high quality products, environmentally sustainable production methods, including organic production, renewable raw materials and the protection of biodiversity. 6EAP: Ensure that the consumption of resources and their associated impacts do not exceed the carrying capacity of the environment. Achieving a significant overall reduction in the volumes of waste and hazardous waste generated and in the quantity of waste going to disposal while avoiding an increase of emissions to air, water and soil. PoI2002: Encourage and promote the development of a 10-year framework of programmes to accelerate the shifts towards sustainable consumption and production. Renew commitments to the sound management of chemicals and hazardous wastes throughout their life-cycle.
	Pesticides use or fertilizers use	Change in livestock density vs. area of livestock farms Share of organic farming in total agricultural area	

		Total environmental expenditures (public + private) level 2 Total environmental expenditures by type of expenses	EC Barcelona2002: Increase spending on R&D and innovation with the aim of approaching 3% of GDP by 2010.
	Number of enterprises with an environment management system (EMS) *Share of production coming from enterprises with an EMS*	Number of EU flower awards by country and product group	EC Lisbon2000: A special appeal to companies' sense of social responsibility regarding best practices in lifelong learning, work organization, equal opportunities, social inclusion and sustainable development. PoI2002: Actively promote corporate responsibility and accountability, including through the full development and effective implementation of intergovernmental agreements and measures, international initiatives and public-private partnerships, and appropriate national regulations.
	Household consumption of electricity	Food consumption per capita and/or meat consumption per capita	PoI2002: Develop and adopt, where appropriate, on a voluntary basis, effective, transparent, verifiable, non-misleading and non-discriminatory consumer information tools to provide information relating to sustainable consumption and production, including human health and safety aspects. **Develop community-based initiatives on sustainable tourism by 2004.**

THEMES Level I	Sub-Themes Level II	Areas to be addressed Level III	Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)
MANAGEMENT OF NATURAL RESOURCES *** Still under discussion: •** Indicator *Nitrogen surplus on agricultural land*, Indicator *Nitrogen in drinking water,* Indicator *River water quality* , Indicator *Pesticide risk index for aquatic environment*			
Population trends of wild Birds *Biodiversity index* Percentage of fish catches	Land use change Acidification: exceedance of critical loads in sensitive natural areas Nitrification of soils in natural areas	Percentage of protected area (either under the Birds and Habitats Directive, or, by IUCN category) GLOBAL Convention TRGT Fragmentation of land by transport infrastructure to Transport	Protect and restore habitats and natural systems and halt the loss of biodiversity by 2010. 6EAP: Conservation of species and habitats with a special concern of preventing habitat fragmentation. PoI2002: Achieve by 2010 a significant reduction in the current rate of loss of biological diversity. Accelerate the implementation of the IPF/IFF proposals for action and by the Collaborative Partnership on Forests, and intensify efforts on reporting to the UN Forum of Forests so as to contribute to an assessment of progress in 2005.

	Size of fishing fleet		Improve fisheries management to reverse the decline in stocks and ensure sustainable fisheries and healthy marine ecosystems, both in the EU and globally. EC Gothenburg2001: The review of the Common Fisheries Policies should address the overall fishing pressure by adapting the EU fishing effort to the level of available resources, taking into account the social impact and the need to avoid over-fishing. 6EAP: Conservation, appropriate restoration and sustainable use of marine environment, coasts and wetlands. PoI2002: On an urgent basis, and where possible by 2015, maintain or restore depleted fish stocks to levels that can produce the maximum sustainable yield. Put into effect, the FAO international plans of action for the management of fishing capacity by 2005 and prevent, deter and eliminate illegal, unreported fishing by 2004. Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices and the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks, by 2012. Establish, by 2004 a regular process under the aegis of the UN for global reporting and assessment of the state of the marine environment. Eliminate subsidies that contribute to illegal, unreported and unregulated fishing and to overcapacity.
	Area at risk from soil erosion Soil contamination by heavy metals		6EAP: Conservation and appropriate restoration of areas of significant landscape values including cultivated and sensitive areas. Promotion of sustainable use of the soil, with particular attention to preventing erosion, deterioration, contamination and desertification.
			6EAP: Ensure that the rates of extraction from water resources are sustainable over the long term. PoI2002: Develop integrated water resources management and water-efficiency plans by 2005.

THEMES Level I	Sub-Themes Level II	Areas to be addressed Level III	Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)
TRANSPORT AND LAND USE MANAGEMENT			
Freight transport and GDP growth Modal split of passenger-Km	Modal split of freight tonne-km Traffic deaths and serious injuries by age Access to public transport	Growth of vehicle-km for road	Decouple transport growth significantly from growth in Gross Domestic Product in order to reduce congestion and other negative side effects of transport. 6EAP: Substantially reducing the number of people regularly affected by long-term average levels of noise. Bring about a shift in transport use from road to rail, water and public passenger transport so that the share of road transport in 2010 is no greater than in 1998 (the most recent year for which data are available). Promote more balanced regional development by reducing disparities in economic activity and maintaining the viability of rural and urban communities, as recommended by the European Spatial Development Perspective
	Land –use changes by main categories or % of land use by settlements and transport infrastructure *Fragmentation due to Tarnsport*		
GOOD GOVERNANCE	**Still under discussion:** Indicators for level 3		
Level of citizen's confidence in EU institutions	% of total public procurement per institution for product group where environmental and/or other SD criteria have been used		EC Lisbon2000: Real efforts must be made by public administrations at all levels to exploit new technologies to make information as accessible as possible. EC Gothenburg2001*(revised in Barcelone2002)*: Ensure that all major internal and external policy proposals include a sustainability impact assessment. EC Barcelona2002: Good governance at the national level is essential for sustainable development and all states should strengthen their government institutions, by promoting the rule of law, improving legal structures and providing access to information. EC Lisbon2000: A special appeal to companies' sense of social responsibility regarding best practices in lifelong learning, work
	Proportion of perverse subsidies Share of Council conclusions that are implemented/followed-up	Share of policies, programmes and plans for which an impact assessment has been decided and undertaken	
	Responses to EC Internet public consultations *Total consultation processes, by type*	Budget allocation for "net-works" Registrations for thematic information	

	Number of infringement procedures and infringements cases	Infringements on non-compliance with International Conventions	organization, equal opportunities, social inclusion and sustainable development.

THEMES Level I	**Sub-Themes Level II**	**Areas to be addressed Level III**	**Headline Objectives in the EU SD Strategy, Presidency conclusions of European Council (EC), Plan of Implementation (PoI) and the 6th Environmental Action Programme (6EAP)**
GLOBAL PARTNERSHIP	**Still under discussion:** Indicators for level 3		
ODA/GNI by Member State *with a graph on the population under poverty line*	EU imports of fair-trade goods *EU imports of SD labelled goods* EU imports by categories		Ensure that globalisation contributes to sustainable development. EC Barcelona2002: Integrate developing countries into the world economic system notably through the implementation of the Doha Development Agenda and ensure that trade policies and investment flows contribute to sustainable development. 6EAP: Ensure that trade and environment policies and measures are mutually supportive. PoI2002: Improve access by developing countries to alternatives to ozone-depleting substances by 2010, and assist them in complying with the phase-out schedule under the Montreal Protocol.
		See the indicators on financing for SD	Attain the International Development Targets and the Millennium Development Goals (MDGs), in particular the target of halving extreme poverty in the world by 2015.
			Ensure good governance at all levels and within all countries so as to achieve common sustainable development objectives. Strengthen the legitimacy, participatory basis, coherence and effectiveness of global economic, social and environmental governance. EC Barcelona2002: Promote partnership for sustainable development with international organizations, governments, civil society, private sector and other stakeholders.

	ODA/income group, category, per capita, population below-the-poverty-line Debt of Heavily Indebted Poor Countries (HIPC) Total EU financing to SD by type of FDI, ODA, OOF		Ensure adequate financing to attain the International Development Targets and the Millennium Development Goals. EC Barcelona2002: Reach to UN goal of 0.7% ODA/GNI: MS lacking behind this goal to increase their ODA in the next four years within their respective budget allocation processes, whilst the other MS renew their efforts to remain at or above the target of o.7% of ODA, so that collectively a EU average of 0.39% is reached by 2006 and each MS at least 0.33% ODA/GNI by 2006. *(Monterrey2002)*. EC Barcelona2002: Encourage sustainable foreign direct investments (FDI) in developing countries and export credits consistent with sustainable development.
	Contribution of the Clean Development Mechanism (CDM) to GHG emission reductions in developing countries Material flows from developing countries Waste flows to developing countries		Ensure that current trends in the loss of environmental resources are effectively reversed at national and global levels by 2015. Develop sectoral and intermediate objectives in some key sectors – water, land and soil, energy and bio-diversity. 6EAP: The pursuit of ambitious environmental policies at the international level paying particular attention to the carrying capacity of the global environment. The further promotion of sustainable consumption and production patterns at the international level.