

**Economic and Social Council**Distr.: General
1 June 2012

English only

Economic Commission for Europe

Conference of European Statisticians

Sixtieth plenary session

Paris, 6-8 June 2012

Item 10(a) of the provisional agenda

Measuring sustainable development**Report on measuring sustainable development – main messages****Note by Statistics Netherlands, the Chair of the Task Force on measuring sustainable development***Summary*

The Joint UNECE/Eurostat/OECD Task Force on measuring sustainable development was created in 2009 to follow up on the work of a previous Working Group on this topic that resulted in the publication *Measuring Sustainable Development* (published in 2009). An extended summary of the Report of the Task Force was consulted with the Conference of European Statisticians in spring 2011 and was presented to the CES 2011 plenary session. The Conference supported the work.

Attached for your information and discussion are the draft sections “Main messages” and “Short narrative” from the Report being finalized by the Task Force. The draft of the full report will be consulted with the CES prior to the 2013 plenary session.

I. Main messages

A. Why measure sustainable development?

1. There is a wide-spread understanding that society needs a better statistical ‘compass’. It is argued that in defining our societal goals we should go beyond economic indicators such as Gross Domestic Product (GDP). Although this macro-economic indicator plays an important role in society and government policy, it is widely acknowledged that GDP does not cover all issues relating to human well-being and sustainable development.

B. Proliferation of the ways to measure sustainable development

2. The last two decades have seen a huge proliferation of methods and indicators to measure sustainable development (SD). In light of the great variety in existing sustainable development indicator (SDI) sets, a need for a conceptual framework that allows harmonising the various measurement approaches has emerged.

C. Proposed conceptual framework

3. The framework presented in the report aims to link the SDI sets that are currently produced by statistical offices and international organisations. As such, the framework could facilitate the comparison and harmonisation of existing SDI sets. A distinction is made between three conceptual dimensions of human well-being ‘here and now’, ‘elsewhere’ and ‘later’. Nineteen themes that cover environmental, social and economic aspects of sustainable development are distinguished in this report. These are: subjective well-being, consumption and income, health, housing, education, leisure, physical safety, inequality, trust, institutions, energy resources, non-energy resources, land and ecosystems, water, air quality, climate, labour, physical capital, knowledge capital and financial capital.

D. Theoretical and practical foundations of the framework

4. The report presents a measurement system which is based on the following sources:

1. Brundtland report

5. This report builds on the definition of sustainable development which was provided in the Brundtland report, prepared by the UN World Commission on Environment and Development: “Sustainable development is a development which meets the needs of the present generation without compromising the ability of future generations to meet their needs”. The report also argues that sustainable development is essentially about distributional justice, namely the distribution of well-being between the present and future generations, as well as across nations.

2. Economic theory, with additional insights from social sciences

6. The framework is developed on the basis of a thorough study of the available academic literature, related to economic theory and measurement of capital. It builds on the notion of a production function which links human well-being to capital. The conceptual basis of the framework covers all three aspects of sustainable development: economic, environmental and social.

3. Stiglitz-Sen-Fitoussi report and other international initiatives

7. The Stiglitz-Sen-Fitoussi Report provided an important impulse to the issue of measuring sustainable development. The report of this Task Force stays close to the recommendations made by Stiglitz et al. Besides, the work of Eurostat, OECD and international organisations related to measuring sustainable development have been taken into account, such as the European Commission “GDP and beyond”, EU Sponsorship Group on measuring progress, OECD “Measuring and fostering the progress of societies”, etc.

4. The commonalities in existing SDI sets

8. The report uses a pragmatic approach in developing a SDI set based on the proposed conceptual framework. The themes and indicators are selected based on an in-depth analysis of the sustainable development themes and indicators that are currently used in several national and international datasets.

E. International dimension

9. In an increasingly globalised world, the relationships between countries become more and more important. An important conclusion of the report is that SDI sets should reflect the international dimension of sustainability, by highlighting how a country in the pursuit of well-being of its citizens may affect the well-being of the citizens of other countries.

F. Procedure to select a large and small set of potential indicators

10. The report proposes a procedure to derive a set of potential indicators from the conceptual framework in a pragmatic way. A large set of 88 indicators, derived from the existing national and international datasets, are allocated according to the nineteen themes of sustainable development as defined by the report. In defining the small set of 24 potential indicators, the most prevalent indicators in the currently available SDI sets were used. The proposed small set of indicators should be regarded as a possible way of narrowing down the number of indicators. However, users may find other ways to define a smaller dataset from the proposed large and rather comprehensive set of indicators.

G. Relevance of the framework

11. The framework presented in the report can be used in a flexible way – it links the three conceptual dimensions defined in the Brundtland report (‘here and now’, ‘later’ and ‘elsewhere’) to policy-relevant themes. The report strives for harmonising the measurement of sustainable development based on a solid conceptual framework. It proposes an indicator set without claiming to provide a “one size fits all” solution. Though the proposed sustainability themes are universal, there is room for selecting country-specific indicators. The system also allows for development of indicators which may provide information to policy makers how to reverse “negative” trends or to sustain “positive” trends from a SD perspective.

H. Measuring sustainable development within the realm of official statistics

12. An important quality criterion when selecting the sustainable development indicators is whether they are available within the realm of official statistics. The majority of indicators presented in the report are produced by national statistical offices and collected by international and supranational organisations such as the

United Nations, OECD and Eurostat. This particularly applies to the small set of indicators, selected on the basis of their availability in a great number of international datasets. As such, most of the indicators are subject to the quality standards of official statistics.

II. Short narrative

A. Introduction

13. The report presents a broad conceptual framework for measuring sustainable development and suggests sustainable development indicators that can be used for international comparison. It is a step towards harmonising the various approaches and indicators that are used by countries and international organisations for measuring sustainable development. The report takes into account the statistical thinking about measuring elements of sustainable development by the various initiatives undertaken by Eurostat and OECD, such as the European Commission “GDP and beyond”, EU Sponsorship Group on measuring progress, OECD “Measuring and fostering the progress of societies”, etc.

14. The report has been prepared by the Joint UNECE/Eurostat/OECD Task Force on Measuring Sustainable Development (TFSD). It is a follow-up of the Working Group on Statistics for Sustainable Development (WGSSD), which published its report in 2009. Where the WGSSD strictly focused on the inter-generational issues of sustainable development using capital measures, this Task Force also takes the well-being of the current generation into account.

B. Conceptual background (Part I of the report)

15. A starting point is the definition presented in the Brundtland report (1987) which states that sustainable development is a development that “meets the needs of the present without compromising the ability of future generations to meet their needs”. The issue of sustainable development thereby becomes a matter of inter-generational and intra-generational equity.

16. Furthermore, the Brundtland report puts emphasis on the fairness of societal developments on a global scale. In an increasingly globalised world the measurement approaches should reflect the international dimension of sustainability, by highlighting how a country in its pursuit for well-being of its citizens may affect the well-being of the citizens of other countries.

17. Following the Brundtland definition, three dimensions of sustainable development are distinguished, i.e. human well-being of the present generation in one particular country (referred to as ‘here and now’), the well-being of future generations (‘later’) and of people living in other countries (‘elsewhere’).

C. Exploring dimensions and themes of sustainable development (Part II of the report)

18. Part II of the report identifies which specific themes of sustainable development need to be measured for the three conceptual dimensions of the human well-being, which are the ‘here and now’, ‘later’ and ‘elsewhere’.

1. Human well-being ‘here and now’

19. There is no theoretical consensus on how to measure the human well-being of the present generation. Essentially human well-being is determined by what people regard as important for their quality of life. The main themes are identified in a

pragmatic way. First, the various perspectives on measuring human well-being are discussed on the basis of a careful exploration of the academic literature. Second, a selection of themes is made based on a number of important empirical studies.

20. The measurement of human well-being 'here and now' distinguishes the following themes: **subjective well-being, consumption and income, health, housing, air quality, education, leisure, labour, physical safety, trust and institutions.**

2. Human well-being 'later'

21. The well-being of future generations is dependent on the resources that the current generation leaves behind. The abundant literature on capital measurement, which is also extensively discussed in the 2009 WGSSD publication, makes it relatively easy to distinguish the main themes of this dimension. The WGSSD agreed that the assets that are important to be preserved for future generations fall under four main types of capital: **economic and financial, natural, human and social capital.** The measurement system estimates the current levels of capital and their increase/decrease to show *how* choices of the present generation impact future generations. It does not attempt to forecast the well-being levels that may be attained by future generations.

22. For economic and financial as well as natural capital the choice is based on the themes which are identified in international standards such as the System of National Accounts (SNA) and the System of Economic and Environmental Accounts (SEEA).

23. There are no international standards yet on the measurement of human and social capital, even though the WGSSD report did identify a tendency towards consensus on how to measure these two types of capital. In the present report, *human capital* is defined as the quality of labour in terms of educational attainment and health status. *Social capital* is defined in terms of the generalised trust that is being built through the repeated interactions between citizens. A second theme related to social capital concerns the quality of society's institutions.

24. Human well-being 'later' distinguishes the following themes: for economic and financial capital - **physical capital, knowledge capital and financial capital;** for natural capital - **energy resources, non-energy resources, land & ecosystems, water, air quality and climate;** for human capital: **labour, education and health,** and for social capital: **trust and institutions.**

3. Human well-being 'elsewhere'

25. The 'elsewhere' dimension captures the ways in which countries affect the human well-being of the rest of the world. Firstly, the themes include indicators on the impact of developed countries on less developed countries (e.g. official development assistance). Secondly, the extent to which one country may deplete the resources of other countries is examined by the so-called footprint indicators. These indicators calculate the environmental pressures that are attributable to consumption in one country on resources abroad.

26. Human well-being 'elsewhere' distinguishes the following themes: **consumption and income, energy resources, non-energy resources, land and ecosystems, water and climate.**

27. Themes that are related to human, social, economic and financial capital are also relevant for the international dimension. However, no robust indicators are available for these themes at present.

28. **Inequality and distributional issues** have a special importance for measuring sustainable development. Inequality is a cross-cutting issue relevant to most of the themes and indicators in a SDI set. Inequality may also be seen as an

important driver of well-being, as the literature suggests that people's well-being is strongly influenced by their position relative to a peer group. Therefore, the report prescribes that wherever possible, a breakdown by different groups (e.g. gender, age group, ethnic background, etc.) should be included under the themes. It has been also suggested to identify inequality as a separate theme but the Task Force considered it more relevant to identify indicators for distributional issues under each of the themes.

D. Sustainable development indicators (Part III of the report)

29. Part III of the report focuses on selecting a large and a small set of Sustainable Development Indicators (SDI).

30. There are two ways to structure a SDI set. The conceptual and thematic categorisation can be seen as complementary. It is possible to select and use just one of them or both simultaneously in developing a set of indicators.

31. The two categorizations are presented in Tables 1 and 2:

(a) *Conceptual categorisation (Table 1)*. The conceptual categorisation presents the indicators according to the dimensions "here and now", "later" and "elsewhere". The Table 1 shows how the themes identified in Part II of the report are allocated according to the three conceptual dimensions. The last two columns present possible indicators: the fourth column presents aggregate indicators (these can be totals, average, mean, etc.) and the fifth column includes indicators showing the distribution among different groups of population. The process of selecting the indicators is explained further in "Selection of a large and small set of potential sustainable development indicators". Table 1 includes overall 44 different indicators. It should be noted that eleven indicators¹ appear in the table twice. For example, 'educational attainment' appears as an indicator for both the education component of human well-being and the education component of human capital. The indicators are considered 'core' indicators for each theme as they indicate to what extent a country is on a sustainable path in that particular area. The presented indicators should be viewed as example indicators that were identified based on commonalities in different indicator sets and availability in international databases. The set can be considered by countries as a potential set of indicators that can be derived from the conceptual framework presented in the report;

(b) *Thematic categorisation (Table 2)*. In this categorisation, the SDI set is organised according to the nineteen themes defined in Part II of the report. Table 2 includes the same core indicators as in the conceptual categorisation (Table 1), but they are no longer separated along the dimensions 'here and now', 'later' and 'elsewhere'. For example, in the conceptual categorisation education is a theme for well-being 'here and now' and 'later'. In the thematic categorisation there is simply one theme, education. As in Table 1, both aggregate indicators and indicators showing distribution are presented. Table 2 includes 88 indicators. In addition to the "core" indicators listed in Table 1, indicators for the so-called "policy levers" are provided for each theme. These indicators show how society (and policy makers) can influence the core indicators by reversing certain negative or sustaining positive trends so that societies can arrive at a more sustainable development path. For example, in the case of education an indicator for policy levers could be "percentage of early school leavers".

34. The lightly shaded areas in Table 1 denote capital indicators expressed in physical terms and the dark shaded areas indicate capital indicators expressed in

¹ Life expectancy at birth, distribution-health, educational attainment, distribution-education, employment rate, female unemployment rate, youth unemployment rate, generalised trust, bridging social capital, voter turnout and number of women in parliament.

monetary terms. The report discusses the issues related to monetisation of different types of capital and raises caution as monetisation is often based on strong assumptions. Even though such estimates can be very interesting for academic purposes, sometimes due to the underlying assumptions they are considered to be outside the realm of official statistics.

32. For presentation purposes a coding system has been introduced that is used in Tables 1, 2 and 3. The following codes have been established: HWB refers to Human well-being; EC – Economic capital; FC – Financial capital; NC – Natural capital; HC – Human capital; SC – Social capital; INT – International dimension; “M” is used to denote monetary capital indicators as distinct from physical indicators of capital.

Table 1.
Sustainable development indicators: conceptual categorisation

Dimension	Sub-dimension	Theme	Aggregate indicator	Indicators showing distribution (inequality)
Human well-being ("Here and now")		HWB1. Subjective well-being	Life satisfaction	
		HWB2. Consumption and income	Final consumption expenditure	Income inequality
				Gender income inequality
		HWB3. Health	Life expectancy at birth	Distribution-health
		HWB4. Housing	Living without housing deprivation	Distribution-housing
		HWB5. Air quality	Urban exposure to particulate matter	
		HWB6. Education	Educational attainment	Distribution-education
		HWB7. Leisure	Leisure time	
		HWB8. Labour	Employment rate	Female employment rate
				Youth employment rate
		HWB9. Physical safety	Death by assault/homicide rate	
HWB10. Trust	Generalised trust			
	Bridging social capital			
HWB11. Institutions	Voter turnout	Number of women in parliament		
Capital ("Later")	Economic and financial capital	EC1. Physical capital	Physical capital stock	
		EC2. Knowledge capital	Knowledge capital stock	
		FC1. Financial capital	Assets minus liabilities	
		<i>EFC-M. Economic and financial capital</i>	<i>Economic and financial capital</i>	
	Natural capital	NC1. Energy resources	Energy resources	
		NC2. Non-energy resources	Non-energy resources	
		NC3. Land and ecosystems	Land	
			Bird index	
		NC4. Water	Water quality index	
		NC5. Air quality	Urban exposure to particulate matter	
		NC6. Climate	Global CO ₂ concentration	
			State of the ozone layer	
	<i>NC-M. Natural capital</i>	<i>Natural capital</i>		
	Human capital	HC1. Labour	Employment rate	Female employment rate
				Youth employment rate
		HC2. Education	Educational attainment	Distribution-education
		HC3. Health	Life expectancy at birth	Distribution-health
	<i>HC-M Human capital</i>	<i>Human capital</i>		
	Social capital	SC1. Trust	Generalised trust	
			Bridging social capital	
		SC2. Institutions	Voter turnout	Number of women in parliament
	<i>SC-M. Social capital</i>	<i>Social capital</i>		
	International dimension ("Elsewhere")	Consumption and income	INT1. Consumption&income	Official Development Assistance (ODA)
Imports from developing countries				
Natural capital		INT2. Energy resources	Import of energy resources	
			Energy dependence	
		INT3. Non-energy resources	Import of non-energy resources	
		INT4. Land and ecosystems	Land footprint	
		INT5. Water	Water Footprint	
		INT6. Climate	Carbon footprint	
Carbon trade balance				

Table 2.
Sustainable development indicators: thematic categorisation

Theme	Aggregate indicator	Indicator showing distribution (inequality)
HWB1. Subjective Well-being	Life satisfaction	
HWB2. Consumption and income	Final consumption expenditure	Income inequality
	GDP per capita	Gender income inequality
	Labour productivity	
	INT 1.Official Development Assistance (ODA)	
	INT 1.Imports from developing countries	
HWB3 & HC3. Health	Life expectancy at birth	Distribution-health
	Healthy life expectancy at birth	
	Suicide death rate	
	Health expenditures	
	Smoking	
	Obesity	
HWB4. Housing	Housing stock	Distribution -housing
	Investments in housing	
	Living without housing deprivation	
	Affordability	
HWB5 & NC5.Air quality	Urban exposure to particulate matter	
	Emissions of particulate matter	
	Urban exposure to ozone	
	Emissions of tropospheric ozone	
	Emission of acidifying substances	
HWB6 & HC2. Education	Educational attainment	Distribution-education
	Expenditures on education	
	Competencies	
	Early school leavers	
	Lifelong learning	
HWB7. Leisure	Leisure time	
HWB8 & HC1. Labour	Employment rate	Female employment rate
	Hours worked	Youth employment rate
	Average exit age labour market	
HWB9. Physical safety	Death by assault/homicide rate	
	Expenditures	
HWB10 & SC1. Trust	Generalised trust	
	Bridging social capital	
	Contact with family and friends	
	Participation in voluntary work	
HWB11 & SC2. Institutions	Voter turnout	Number of women in parliament
	Trust in institutions	
NC1. Energy resources	Energy resources	
	Consumption	
	Energy intensity	
	Renewable energy	
	INT 2. Import of energy resources	
	INT 2. Energy dependence	
NC2. Non-energy resources	Non-energy resources	
	Domestic material consumption	
	Resource productivity	
	Generation of waste	
	Recycling rate	
	INT 3. Import of non-energy resources	

Theme	Aggregate indicator	Indicator showing distribution (inequality)
NC3. Land and ecosystems	Land	
	Protected areas	
	Nutrient balance	
	Emissions to soil	
	Bird index	
	Threatened species	
	INT 4. Land footprint	
NC4. Water	Water resources	
	Water abstractions	
	Water quality index	
	Emissions to water	
	INT 5. Water Footprint	
NC6. Climate	Global CO ₂ concentration	
	Historic emissions	
	GHG-Emissions	
	GHG-Emissions Intensity	
	INT 6. Carbon footprint	
	INT 6. Carbon trade balance	
	State of the ozone layer	
	CFC emissions	
EC1. Physical Capital	Capital stock	
	Gross capital formation	
	Exports of capital goods	
EC2. Knowledge Capital	Capital stock	
	R&D expenditures	
	Knowledge spillovers	
FC1. Financial capital	Assets minus liabilities	
	Government debt	
	Current deficit/surplus	
	Pension reserves	

36. The advantage of the conceptual categorisation is that it emphasises the trade-offs between the ‘here and now’, ‘elsewhere’ and ‘later’. It is also closely connected to economic theory and is therefore more amenable to economic modelling and to developing satellite accounts of the System of National Accounts. The advantages of the thematic categorisation are that the terminology is more suited to the language and societal dimensions which policy makers recognise. The system can also easily incorporate indicators for policy levers, which provide policy makers with information on how to reinforce existing positive trends or to reverse negative trends.

37. The report does not aim at a “one size fits all” approach, but rather presents a flexible framework that can cater to a variety of needs. Those users who want to stress the current as well as the future aspects of human well-being (the ‘integrated approach’) may base their indicator system on all nineteen themes. Users who want to emphasise the inter-generational aspects of sustainable development (the ‘future-oriented approach’ or the ‘capital approach’) may restrict themselves to the use of capital indicators identified in Table 1. Within the future-oriented approach, some users may prefer to use monetised capital indicators (the ‘monetary capital approach’) shown in the darkest shaded areas in Table 1. Others may opt for the ‘hybrid capital approach’ that uses both monetary and physical indicators of capital.

38. The different approaches for constructing a SDI set have been linked on the basis of the flexible framework as put forward in this report. The relationship between the conceptual and thematic categorisation is shown in Table 3.

Table 3.

Relationship between the conceptual and thematic categorisation

Themes	Dimensions		
	Human well-being (‘here and now’)	Capital (‘later’)	International dimension (‘elsewhere’)
Subjective well-being	HWB1		
Consumption and income	HWB2		INT1
Housing	HWB4		
Leisure	HWB7		
Physical safety	HWB9		
Labour	HWB8	HC1	
Education	HWB6	HC2	
Health	HWB3	HC3	
<i>Human capital - monetary</i>		<i>HC-M</i>	
Trust	HWB10	SC1	
Institutions	HWB11	SC2	
<i>Social capital - monetary</i>		<i>SC-M</i>	
Energy resources		NC1	INT2
Non-energy resources		NC2	INT3
Land and ecosystems		NC3	INT4
Water		NC4	INT5
Air quality	HWB5	NC5	
Climate		NC6	INT6
<i>Natural capital - monetary</i>		<i>NC-M</i>	
Physical capital		EC1	
Knowledge capital		EC2	
Financial capital		FC1	
<i>Economic and financial capital - monetary</i>		<i>FC-M</i>	

Note: The 4 monetary aggregates are shown in italics. These are not considered as separate themes.

E. Selection of large and small sets of potential sustainable development indicators

1. Two large SDI sets: conceptual and thematic categorisation

39. The following two considerations have been taken into account in selecting the indicators in the large set:

(a) *Identifying indicators based on theoretical concepts that are most fitting to measure specific aspects of sustainable development.* These are referred to as “ideal indicators”. The indicators are derived taking into account the measurement literature but not all of them are currently available in practice;

(b) *Identifying indicators based on thorough analysis of commonalities in existing SDI sets.* These are indicators which are found in the majority of currently existing SDI sets. Annex I provides a detailed analysis of the indicators developed and used by United Nations, Eurostat and the World Bank as well as seven countries

that are members of the TFSD. For practical purposes, the analysis was restricted to these 10 SDI sets.

40. The following selection procedure has been used. As a first step, the “ideal indicators” are identified. Then the currently existing SDI sets are analysed to see whether the “ideal indicator” is included in these sets. If not, another indicator commonly used in SDIs is chosen for this particular area that would be as close to the “ideal indicator” as possible. Following this selection procedure, two large SDI sets were created: one based on the conceptual categorisation (55 indicators) and one based on the thematic categorisation (88 indicators).

2. A small SDI set

41. A smaller set of indicators is needed to communicate the main messages to policy makers more efficiently. Table 4 proposes a small set of 24 indicators selected based on commonalities in existing SDI sets and data availability in the reviewed international databases. The indicators are allocated according to the 19 policy-relevant themes.

42. For each of these indicators, data can be found in the statistical databases of UN, OECD, Eurostat or the European Social Survey. Therefore, the list can be useful for international comparison.

Table 4.

A small set of 24 indicators (thematic categorisation)

Theme	Indicator
Subjective well-being	Life satisfaction
Consumption and income	Final consumption expenditure
	Official Development Assistance (ODA)
	Imports from developing countries
	Income inequality
Health	Life expectancy at birth
Housing	Living without housing deprivation
Education	Educational attainment
Leisure	Leisure time
Physical safety	Death by assault/homicide rate
Trust	Generalised trust
Institutions	Voter turnout
Energy resources	Consumption
	Renewable energy
	Energy dependence
Non-energy resources	Domestic Material Consumption
Land and ecosystems	Bird index
Water	Water abstractions
Air quality	Urban exposure to particulate matter
Climate	GHG-Emissions
Labour	Employment rate
Physical Capital	Gross capital formation
Knowledge Capital	R&D expenditures
Financial capital	Government debt

3. Availability of data of the large and small sets in the existing international databases

43. The mandate of the TFSD included an analysis of the set of indicators from the point of view of data availability within official statistics. Annex II provides the results of the analysis for 46 countries. Worksheet “Annex IIa” shows analysis for the large set (conceptual categorisation) while Worksheet “Annex IIb” deals with the thematic categorisation (large and small set).

44. The availability of data for the selected indicators for the EU and OECD member countries and the 6 so-called BRIICS countries (Brazil, Russia, India, Indonesia, China, and South Africa) in the databases of the United Nations, OECD and Eurostat was analysed. The purpose was to get a general estimate of how many of the proposed indicators are available within the realm of official statistics. More data on the indicators can be probably found from different NSOs, but such a comprehensive analysis would be too resource demanding and was not carried out.

45. Table 5 summarises to what extent the suggested indicators are available in the existing international databases. The indicators are divided into three categories: 1) data that are currently available in the databases of the United Nations, OECD and Eurostat, 2) data available from the European Social Survey and climate related data, and 3) indicators as place-holders (i.e indicators that are not yet available).

Table 5.

Data availability of the indicators in the large and small set

	Large set				Small set	
	Conceptual categorisation		Thematic categorisation		Thematic categorisation	
	Number	%	Number	%	Number	%
Total number of indicators in the indicator sets	55		88		24	
Available in:						
- databases of United Nations, OECD and Eurostat	30	55%	61	69%	22	92%
- European Social Survey	3	5%	4	5%	2	8%
- climate related data	2	4%	2	2%		
Place-holders	20	36%	21	24%		
<i>Of which:</i>						
- <i>System of Environmental-Economic Accounting</i>	2		5			
- <i>System of National Accounts</i>	2		5			
- <i>Other (including footprint indicators, monetary aggregates for different types of capital, etc.)</i>	16		11			
Indicators in official statistical sources (UN, OECD and Eurostat databases + place holders under the existing statistical standards, SNA 2008 and SEEA)	34	62%	71	80%	22	92%

46. A majority of indicators in the large sets (55% and 69%) and almost all (92%) of the indicators in the small set are available in the United Nations, OECD and Eurostat databases.

47. Four indicators in the large set, namely ‘life satisfaction’, ‘generalised trust’, ‘contact with family and friends’ and ‘voluntary work’ are found in the European Social Survey (ESS) which is a respected survey of social attitudes in Europe. Two climate change related indicators (CO₂ concentration and state of the ozone layer) are based on academic research. With regard to the small set, only two indicators come from the European Social Survey.

48. The potential indicator set includes 21 “place-holders” that are derived from the proposed framework. It is important to note that these indicators are not yet available and need further development. What is not measurable or available today, might be measurable in the future. The place-holders demonstrate a need for new indicators that statisticians can strive to develop in the future. Several of these place-holders in Table 5 are reserved for indicators that are expected to be developed as a result of application of the SNA and SEEA standards. For example, data on energy resources and non-energy resources are not yet available in international databases, but the statistical guidelines for their measurement are laid out in the SEEA. The

place-holders under 2008 SNA include stock of the knowledge capital (built up by expenditures on Research and Development that are capitalised in the new SNA) and land as a natural resource.

49. Four additional place holders relate to the footprint indicators: land, water, carbon footprint and carbon trade balance. Four place holders concern monetary aggregates for different types of capital: economic and financial capital, natural capital, human capital and social capital. There are quite a few place-holders related to distributional issues and inequality (in health, housing, education). As the small set of indicators is identified based on data availability, it does not include any place holders.

4. Official statistics

50. The analysis based on the UN, OECD and Eurostat databases shows that a majority of the indicators in the large sets are available in official international statistical sources. When adding the place-holders derived from the two international statistical standards, the SNA and SEEA, the indicators of the large sets which are available from official statistical sources amount to 62% and 80% for the conceptual and thematic categorisation respectively..

51. The availability of indicators in official statistical sources is important from the viewpoint of the quality standards of official statistics. The data that are available from outside official statistics are not necessarily of lower quality. Some of the data sources pay significant attention to quality and have strict procedures to verify the data. However, their quality criteria may be different from those applied in official statistics. Furthermore, the procedures of collecting, producing and disseminating data may also differ from official statistics. For example, there may be no obligation to protect data confidentiality, some stakeholders may have privileged access to the data, the independence and impartiality may not be guaranteed, etc.

52. The high availability of the suggested potential indicators in official statistical sources shows that official statistics is already on a good path to measure sustainable development.

F. Future work

53. This section proposes an agenda for future work on the measurement of sustainable development and includes work on potential extensions, refinement and implementation of the measurement system.

1. Refining and implementing the proposed measurement system

a. Developing harmonised indicator sets for measuring sustainable development

54. There is a great need for national statistical agencies and international organisations to harmonise their SDI sets to be better suited for international comparison. This report contributes to the harmonisation of the work on measuring sustainable development, by presenting a conceptual framework that links the various measurement approaches that currently exist. By doing so, the similarities between the approaches become more visible than the differences. The conceptual foundation and the potential indicators suggested in this report may serve as a good starting point for further harmonisation of the measurement systems and developing a set of indicators that could be used for comparison across countries.

b. International dimension

55. More work needs to be done on measuring the international distributional aspects of societal development. Apart from the environmental aspects and the impact of affluent countries on developing countries, the social and economic inter-

relationships between countries should be part of any measurement system on sustainable development. The report proposes a framework to quantify these international aspects, though much more empirical work is needed in order to develop better measures for this dimension of sustainable development.

c. Further work on specific topics

56. More work needs to be done to arrive at better capital indicators:

57. Human capital. More indicators for health need to be developed that can be used for international comparisons.

58. Social capital. Only “trust” measures are widely used as indicators for social capital. Other important aspects of social capital such as “norms and values” and “bridging social capital” (i.e. charting the ways in which different groups of society are interconnected) still lack proper measures.

59. Natural capital. The measurement of biodiversity and ecosystems needs more attention. The operationalisation of this concept is still in its infancy and robust indicators are lacking.

60. Distribution. Distributional aspects (inequality) are an important component of sustainable development. Information on income inequalities exists, but internationally comparable statistics on inequality in the area of health, education and other themes are very rare.

61. Time use. More use can be made of information on time-use in order to measure non-market activities which are relevant to sustainable development (especially in the field of human and social capital).

d. Increasing the practical use of the SDI set for the society

62. To increase the usefulness of the SDI sets, indicators should be made available more timely and for longer time-periods:

63. Timeliness. As many sustainable development indicators are often not available for the most recent years, the practical use of many SDI's for policy makers is quite limited. More efforts should be made to provide society with estimates for the most recent years.

64. Time series. As sustainability is a concept which deals with inter-generational issues, long time series can be helpful to identify how present-day sustainability problems have come into existence.

2. Expansion of the measurement system

e. Measuring sustainable development at different scale-levels

65. Attempts should be made to measure sustainable development at other scale-levels than that of countries. For example, work could be undertaken to explore the possibility to apply the indicator set at a company level, by harmonising the work of this Task Force with work of other initiatives such as the Global Reporting Initiative (GRI) undertaken by the business community. Besides, there are ample opportunities to provide the user with interesting breakdowns revealing the underlying distribution of the data. A sub-categorisation by industry or by type of household in satellite accounts can be particularly useful in order to study the ways in which economic, ecological and social developments are interrelated.

f. Linking subjective and objective indicators

66. More work needs to be done to link subjective (perception) indicators on human well-being to actual living conditions (i.e. objective measure of health linked to the ways in which people perceive their health, etc.). Ideally, this work could be

undertaken using comprehensive surveys in which information is gathered at a micro level for each of the different SD themes distinguished in this report, and by presenting objective as well as subjective measures. The work on measuring current well-being could benefit from a more direct confrontation of micro and macro measures at the level of individuals. Comprehensive surveys on the well-being of individuals at micro level are still lacking for a large number of countries.

g. Linking the measurement system to sustainable development goals

67. In order to enhance the usefulness of the proposed potential set of SDIs, a link to policy targets should be made where possible. In future, a closer link between the indicators in this report and the Sustainable Development Goals proposed in the context of the UN Rio+20 Summit could be explored.

Annex I: Commonalities between SDI sets

1. Annex I presents the analysis of ten SDI sets to find commonalities. The aim of the analysis was to identify the indicators to measure sustainable development, by selecting the more commonly used indicators in SDI sets for specific themes and sub-themes.

2. The SDI sets from the institutes/countries that are members of the TFSD were analysed. To make a conceptually sound comparison, only the indicator sets which explicitly aim to measure sustainable development or sustainability are covered. This means that indicator sets which measure “progress”, such as Australia’s Measures of Progress, are not included. The following SDI sets have been analysed:

- UNCSO- United Nations Commission for Sustainable Development
- Eurostat – Eurostat’s Sustainable Development Indicators
- WB – World Bank-Where is the wealth of nations?
- France - FRA
- Germany - DEU
- New Zealand - NZL
- Netherlands - NLD
- Norway - NOR
- Switzerland - CHE
- United Kingdom- GBR

3. Apart from the overview of all available data in the datasets mentioned above, also the indicators which are included in the TFSD datasets are identified. The following background colours are used:

(a) Green background – indicators that belong to the small set of 24 indicators. Two indicators from the set do not exist in Annex I, ‘living without housing deprivation’ and ‘R&D expenditures’;

(b) Blue background – indicators that together with the small set make up the large set of 88 indicators. The indicators in Annex I are not all directly included in the final set but are derived based on these. For example, the indicators on imports of minerals and imports of biomass are replaced in the final set by ‘imports of non-energy resources’, the indicators on lake water quality and groundwater quality are merged into one indicator ‘water quality index’, etc. Some indicators in the final set are not present in this table, e.g. ‘global CO₂ concentration’, ‘housing inequality’ and ‘education- distribution’. This is because such indicators are not included in the current SDI sets.

4. The analysis focuses on whether a specific indicators present in the SDI set. It does not analyse data availability which is done in Annex II.

Annex II: Data availability

1. The Report presents three sets of indicators to measure sustainable development: two large sets (using conceptual and thematic categorisations) and a small set (using the thematic categorisation).
2. The two large sets, based on the conceptual; and thematic categorisation, include 55 and 88 indicators respectively. The conceptual categorisation includes only 'core' indicators which show how a country is doing in the 'here and now', 'later', and 'elsewhere'. The thematic categorisation provides the core indicators for each theme (allowing to see whether a country/region is on a sustainable path in this thematic area) as well as policy lever indicators (that provide information on how the core indicators can be influenced).
3. The small set is a subset of the large set-thematic categorisation. It consists of 24 indicators. The small set includes only indicators for which data are available in international databases.
4. Annex II shows the availability of these data for 46 countries. The countries are members of the European Union and/or the OECD and the six so-called BRIICS² countries (Brazil, Russia, India, Indonesia, China, and South Africa). The analysis covers the statistical databases of the United Nations, OECD and Eurostat. If these indicators were not present in any of these databases, other sources have been analysed (e.g. the European Social Survey). The analysis was done in the period February 2012 - April 2012.
5. For these 46 countries, the numbers of data points starting from 2000 are counted. An "11" therefore indicates that there is annual data available in the database for all years 2000-2010. A "4" indicates that there are four data points for the period 2000-now.³

² This used to the "BRIC" countries, but recently Indonesia and South Africa are often added.

³ It should be noted that the indicator "GHG emissions intensity" was not found in the UN, OECD and Eurostat databases. However, it was considered as available because it can be calculated based on GHG emissions and GDP data that are both available in the analysed databases.