



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

ESA/STAT/AC.238
UNCEE/6/14

**Sixth Meeting of the UN Committee of Experts on
Environmental-Economic Accounting
New York, 15-17 June 2011
North Lawn Building – Conference Room C**

**Summary of the Report on Measuring Sustainable Development,
Proposed Indicators, and Results of Electronic Consultation**

Notes prepared by UNECE/Eurostat/OECD Task Force

(for discussion)



Economic and Social Council

Distr.: General
29 March 2011

Original: English

Economic Commission for Europe

Conference of European Statisticians

Fifty-ninth plenary session

Geneva, 14-16 June 2011

Item 6c of the provisional agenda

Manuals, guidelines, recommendations, frameworks, etc. prepared under the auspices of the Conference

Summary of the report on measuring sustainable development

Note by the joint United Nations Economic Commission for Europe/Eurostat/Organisation for Economic Co-operation and Development Task Force on Measuring Sustainable Development

Summary

The paper provides a summary of the report being prepared by the joint United Nations Economic Commission for Europe (United Nations Economic Commission for Europe)/Eurostat/Organisation for Economic Co-operation and Development Task Force on Measuring Sustainable Development.

Following a decision by the Bureau of the Conference of European Statisticians, the summary is sent for consultation to seek feedback from the members of the Conference on the general direction of the report. The comments on the summary will be presented to the plenary session of the Conference in June 2011. The full report is planned to be submitted to the plenary session of the Conference of European Statisticians in 2012.

The comments will be also taken into account by the Task Force at its next meeting on 19-20 May 2011 where the draft of the full report will be discussed.

I. Introduction

1. The paper provides a preliminary summary of the final report being prepared by the Joint United Nations Economic Commission for Europe (UNECE)/Eurostat/Organisation for Economic Co-operation and Development (OECD) Task Force on measuring sustainable development. The aim of the summary is to explain the thinking behind the report and to seek feedback on its general direction. The full report is planned to be submitted to the Conference of European Statisticians (CES) plenary session in 2012.

2. The Joint UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development (TFSD) builds on the work of its predecessor, the Working Group on Statistics for Sustainable Development (WGSSD). The objective of the new work is to further pursue a conceptual approach in identifying indicators to present the long-term, i.e. across generations, dimension of sustainable development. In addition, indicators to present the quality of life are also being developed. The Task Force proposes a set of indicators covering the human wellbeing of the present generation, quantifying the amount of economic, human, natural and social capital that is left to future generations (i.e. the inter-generational aspects of sustainable development) and provides information whether countries in the pursuit of their welfare goals have an impact on the rest of the world (the Brundtland report especially emphasized the impact of high income countries on the least developed economies). In other words, the indicators reflect on the basic trade-offs regarding human wellbeing 'here and now', 'later' and 'elsewhere'.

3. The work of this Task Force is explicitly linked to and inspired by other initiatives such as GDP and Beyond (European Commission), Progress of Societies (OECD) and the Sponsorship Group for Progress, Wellbeing and Sustainable Development (Eurostat/INSEE). The members of this Task Force closely follow these initiatives and take on board the main outcomes of these initiatives in the Final Report. Furthermore, the Task Force for Measuring Sustainable Development also gives input to these other initiatives. The co-operation with the above international projects is further enhanced by the fact that a number of members in this Task Force are also active in these other initiatives.

4. This report aims to provide not only statistical offices, but also international organizations and the public in general with the latest scientific and statistical methods to measure sustainable development. Based on the measurement theory a system of sustainable development indicators (SDI) is proposed. It should be noted that the work of the Task Force is of an academic nature and that it cannot be considered to lead to a statistical standard in the short run. As a huge part of the report focuses on methodological issues, the Task Force pays special attention to the quality requirements of official statistics when discussing the choice of potential indicators. These reflections on 'official statistics' should pave the way for a possible implementation of some of the ideas of this Task Force in the longer run. It should be noted that this Task Force primarily aims to build a SDI set based on conceptual grounds. However, the indicator set has also been designed in such a way, that it is relevant for SD policy.

5. There is a wide-spread feeling that society needs a better statistical 'compass'. It is argued that in defining our societal goals we should go "beyond GDP" and that statistical tools need to be developed that address a broad range of issues relating to quality of life and sustainable development. It seems that after the publication of the seminal Stiglitz-Sen-Fitoussi report, co-chaired by two Nobel Prize winners and an outstanding French economist, the call for such a new statistical framework is stronger than ever.

6. In this report we follow the definition of sustainable development as was proposed by the Brundtland Commission, which states that 'sustainable development is development

that meets the needs of the present without compromising the ability of future generations to meet their own needs'. This definition contains two key concepts: the concept of 'needs' and the idea of 'limitations' imposed by the state of technology and social organization on the ability to meet these needs.

II. Background

7. The predecessor of this Task Force, the WGSSD, was commissioned by the Conference of European Statisticians (CES) in 2005 to develop a broad conceptual framework for measuring sustainable development based on the capital approach, and to identify a small set of indicators that could serve for international comparisons. The work of the WGSSD resulted in the publication *Measuring Sustainable Development*¹. The WGSSD noted in the report the need for further conceptual and methodological development to refine certain elements of the capital approach. With the finalization of this report, the mandate of the WGSSD was fulfilled. Basically, the WGSSD Report focused on the inter-generational aspects of sustainable development, following the so-called future-oriented view. The proposed set consisted of indicators covering economic, human, natural and social capital.

8. In February 2008, the CES Bureau reviewed the report and recognized that many issues remain unresolved and should be developed further. The Bureau agreed on a proposal that a new Task Force be created which should further pursue the conceptual development of the capital approach in identifying indicators to present the long-term dimension of sustainable development. In addition, indicators to present the distributional aspects under each capital indicator should be considered to respond to the needs of the policy makers. The work should focus on those indicators where further research is most likely to result in improved statistical concepts or methods.

9. The Task Force should further refine and, if necessary, expand the small set of indicators based on the capital approach proposed by the WGSSD in the Report on Measuring Sustainable Development and would also explore possibilities to include indicators that link the capital approach concept to policy-oriented indicators. The Task Force should examine the indicators in order to determine whether they capture the long-term conceptual perspective of the capital approach to measuring sustainable development.

10. The work should follow up on dimensions unresolved in the final report of the WGSSD, focusing on - but not limited to- social and human capital. The Task Force should include in the set of indicators new or revised long-term social and human capital indicators that the Task Force might identify.

11. The original mandate of the TFSD was very much based on the inter-generational aspects of sustainable development. However, during the first meeting of the Task Force it was concluded that the group should produce indicator sets for both the inter-generational aspects as well as the human wellbeing of the current generation. This change in the mandate was agreed upon by the CES. The Report of the CES Bureau meeting (3-4 November 2010)² mentioned that some Bureau members considered the future oriented view (focusing on capital indicators) to be too restrictive to measure sustainable development, while the integrated view (which also incorporates present-day human wellbeing) covers the broad concept of sustainable development. Besides, the CES Bureau indicated that the framework has to offer flexibility by including distributional and

¹ Available at <http://www.unece.org/stats/archive/03.03f.e.htm>

² See Report of the CES Bureau meeting, Geneva, 3-4 November 2010; ECE/CES//2011/13

international aspects of sustainable development and to reflect on the outcomes of the Stiglitz Report. As the TFSD decided to operationalize sustainable development on the basis of the Brundtland approach, the above-mentioned aspects are all included in this report.

12. The work of this Task Force for Measuring Sustainable Development clearly builds on the work of the previous Working Group on Statistics for Sustainable Development, but also presents important new work:

(a) The work on human and social capital is much more elaborate as it builds on the most recent methodological insights derived from academic literature;

(b) Where the previous working group was confined to the future oriented view, i.e. only focusing on the inter-generational aspects of sustainable development, the TFSD also takes into account aspects of human wellbeing of the present generation as well as international (distributive) issues. Therefore, the work of the TFSD will enable the statistical community to quantify the fundamental trade-offs (the 'here and now' versus 'later' and 'elsewhere') as were mentioned in the Brundtland Report much better than could be done on the basis of a dataset consisting of just capital indicators;

(c) The TFSD pays more attention to the concept of 'official statistics' than the WGSSD did and provides guidelines as to how to decide whether statistical information can be classified as official or not. Special attention will be paid to the use of imputation techniques, which should be reduced to a minimum and should always be communicated in clear ways. In this light also the limitations of monetization techniques –due to the use they often make of imputations and theoretical assumptions- will be scrutinized;

(d) The TFSD put a lot of effort in comparing various datasets (at country level or at the level of international organisations) to investigate the availability of high-quality data. The work of this Task Force was undertaken in response to the proliferation of sustainable development indicators aiming to propose a core set of indicators for international comparability. It is a challenge to balance international comparability and national relevance in this area;

(e) Last but not least, the TFSD report presents the headline indicators along the definition of the Brundtland Commission, focusing on human wellbeing of the present generation and the effects of this pursue of wellbeing on later generations and on a global scale (this is what is called the *conceptual approach*). Besides, these headline indicators are also presented along more conventional thematic lines which represent classical policy themes (the *policy approach*). Here for each theme also *sub indicators* are added to the dataset. Where the headline indicators indicate how society is doing in terms of its human wellbeing ('here and now', 'elsewhere' or 'later'), the sub indicators indicate how certain (negative) trends might be reversed. These sub indicators often indicate the levels of investments or productivity/efficiency changes. These sub-indicators are particularly relevant for policy makers because they indicate how the headline indicators can be influenced.

III. Structure of the report

13. The final report of this Task Force consists of four sections.

14. Section I presents the conceptual framework on the basis of which the SDI set is built. This part of the report builds on the work presented by the WGSSD, but is also in line with the recommendations of the Stiglitz report. Besides, it reflects the wish of members of this Task Force to broaden the discussion by also incorporating topics concerning the human wellbeing of the present generation. Special attention is paid to distributional issues.

15. Section II delves deeper into the methodological aspects of measuring sustainable development and concludes with a list of sustainability themes (such as the different aspects of quality of life, various types of capital, etc.) that should be covered and presents so-called ideal indicators, i.e. the indicators that are desirable from a theoretical point of view and that also meet the requirements of official statistics, but which are not always at the disposal of the statistical community. This part of the report deals with the core issues which are mentioned in the mandate of this Task Force: extending and refining estimates on human and social capital as well as doing further work in the field of the measurement of economic wealth. Besides, a chapter is dedicated to conceptual issues regarding the measurement of quality of life. This section is based on statistical handbooks as well as on academic literature.

16. In section III a list of indicators for the several sustainability themes is presented. These indicators correspond as closely as possible to the ideal indicators discussed in section II of the report. The Task Force decided not to adopt a one-size-fits-all approach. Even though the themes are universal (such as education, health etc), the actual indicators may differ from country to country. Besides, there are two different ways in which the indicators are being presented. The conceptual approach follows the Brundtland definition and distinguishes the quality of life in the 'here and now', 'later' and 'elsewhere'. Apart from this conceptual classification, also a more straightforward approach will be followed in which the indicators are categorized by policy areas.

17. Section IV offers the main conclusions and recommendations for further work.

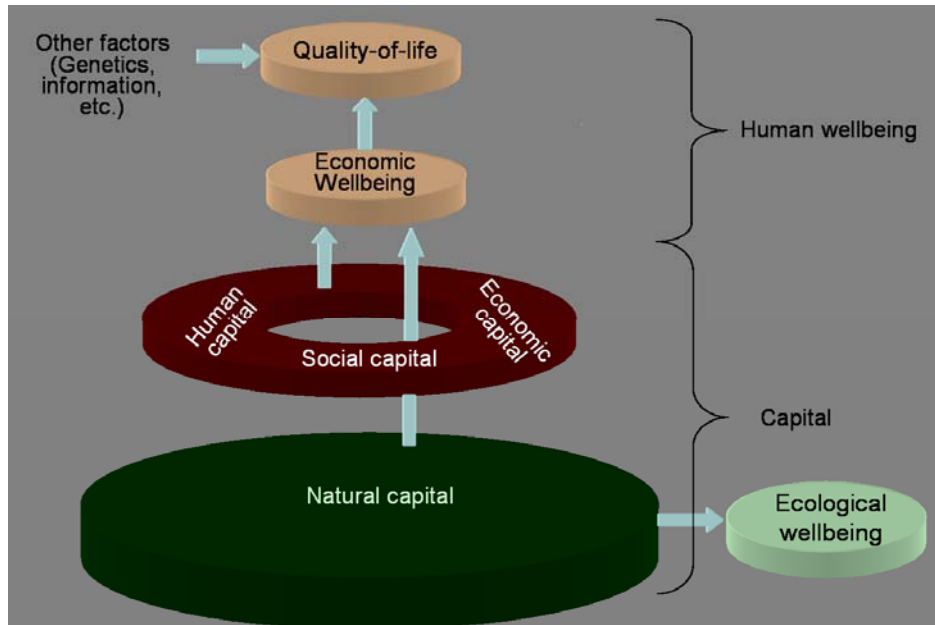
A. Section I: conceptual framework

18. The Brundtland definition implies that the wellbeing of future generations must be safeguarded by making sure that they have sufficient resources, while at the same time securing the wellbeing of the current generation. The issue of sustainable development thereby becomes a matter of intergenerational equity which is determined by the distribution of capital over time. The same applies to the intra-generational aspects of capital use. The Brundtland report put quite some emphasis on the fairness of societal developments on a global scale.

19. According to the Brundtland report the core of the debate on sustainable development concerns the trade-offs between the present generation pursuing its welfare goals in the 'here and now', yet leaving enough assets for future generations as well as people elsewhere on this planet, to pursue their welfare. The fairness of distribution can therefore be considered to be a vital part of the discussion on sustainable development.

20. It is clear that the quality of life of present and future generations crucially depends on how we use our resources. These resources or assets are estimated on the basis of the so-called capital approach, which does not only refer to the economic capital that is taken on board in the System of National Accounts, but which also includes non-market natural capital, human capital and social capital. Figure 1, similar to the graphical representations presented by the Global-project of the OECD and the National Accounts of Wellbeing of the New Economics Foundation, shows how the wellbeing of society is related to its resources (the different types of capital).

Figure 1
Human wellbeing and its relation to capital



21. Figure 1 introduces the main concepts that are used in this report and shows how capital, welfare and wellbeing are related.

22. The following definitions are used in the Report:

(a) Human wellbeing: A measure of the life satisfaction. Can be subjective or objective;

(b) Quality of life: A broad concept which is not confined to the utility derived from the consumption of goods and services, but which is also related to people's functionings and capabilities (i.e. the freedom and possibilities they have to satisfy their needs). Quality of life is affected by the use of resources as well as factors of a psychological nature;

(c) Economic wellbeing: A measure which relates to people's access to goods and services. This concept essentially deals with people's command over commodities. Economic wellbeing is only affected by the use of resources;

(d) Sustainable development: A development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

23. Quality of life is placed on the top of the pyramid. It should be noted that quality of life is a much broader concept than economic wellbeing. In the current revision of the handbook of the measurement of household income by the Canberra group, economic wellbeing is defined as follows: "A household's economic wellbeing can be expressed in terms of its access to goods and services. The more that can be consumed, the higher the level of economic wellbeing. While other theoretical approaches have underlined the importance of other aspects of people's life as determinants of human wellbeing (reaching beyond the commodities that are available to them), here the focus is on the narrower concept of economic wellbeing".

24. The TFSD follows this definition. However, to do full justice to the wellbeing of the present generation, other factors need to be taken into account. These additional factors are taken on board in the much broader quality of life concept, and they relate to the

‘functionings and capabilities’ which are strongly stressed by Amartya Sen. Here also the freedom and possibilities that people have to satisfy their needs are taken into account.

25. Society has a number of available resources [economic capital (machines and buildings), human capital (labour, education and health); natural capital (natural resources, biodiversity and climate) and social capital (social networks, trust and institutional capital)]. These resources are necessary to maintain human wellbeing.

26. Natural capital is a special type of resource because it is a critical capital stock. Without it humans could not exist. It is also important to note that the above discussion of quality of life and wellbeing is very anthropocentric: natural capital is only of value to society if it provides ecological services that benefit humans. In the literature many authors argue that certain types of natural capital, such as biodiversity, have an existence value, irrespective of its use by society. This aspect is represented by introducing the term “ecological wellbeing” in figure 1.

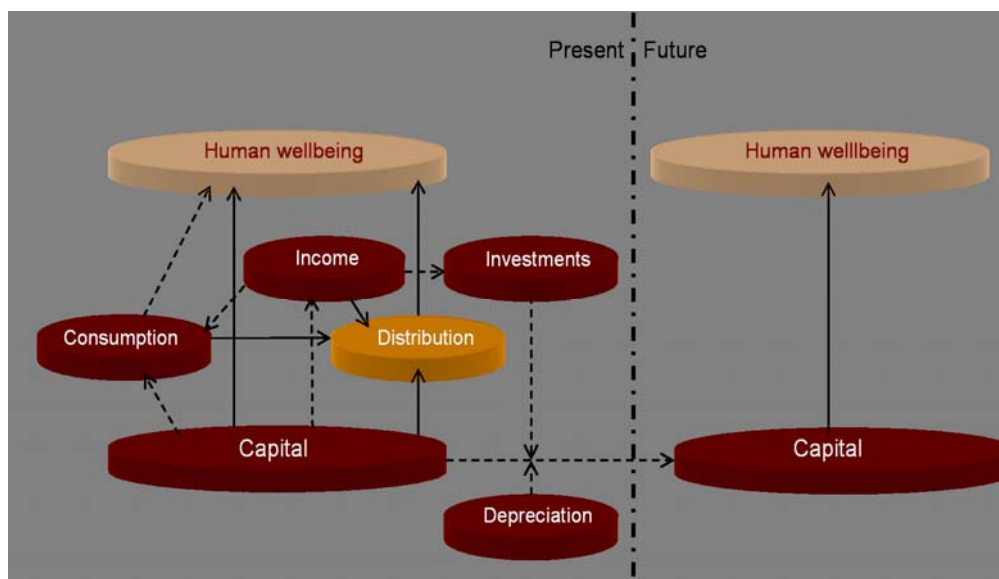
27. Figure 1 is a static representation of human wellbeing. However, it does not show whether the wellbeing can be maintained towards the future. From an inter-generational perspective sustainable development is development that ensures non-declining per capita national wealth by replacing or conserving the sources of that wealth; that is, stock of produced, human, social and natural capital. It should be pointed out that in this definition only the *potential* for sustainable development as there are no guarantees that future generations will manage the capital stocks in an appropriate manner. However, while stable or growing total wealth per capita is no guarantee of sustainable development, the opposite is a guarantee of its impossibility. That is, in the face of declining per capita capital stocks, wellbeing will in the long run deteriorate and sustainable development will not be possible.

28. The capital approach has special relevance to the Brundtland view. The capital approach provides us with tools to analyze the international aspect of sustainable development, i.e. to what extent high-income countries build up their quality of life at the expense of the developing countries. Simply by examining the extent to which high-income countries contribute to the depletion of vital (critical) resources of the poorer regions on our planet, will enable us to identify the non-sustainable aspects of societal developments.

29. Figure 2 takes the time-dimension into account. It shows that through the production process, the capital stocks lead to the provision of goods and services that are consumed and also generate income which is required to buy these commodities. In economic terms, the goods and services that are produced lead to “utility” and thereby enhance human wellbeing.

30. Not all of the income is consumed. A portion is reserved for investments. Together with the depreciation, this leads to new levels of capital in the future. Societies can therefore influence the intergenerational sustainability by the investments and depreciation in capital stocks as well as the efficiency with which these capital stocks are used.

Figure 2

A conceptual basis for human wellbeing in the future

31. The above is clearly inspired by economic theory and the statistical system which was been created to measure macro-economic developments: the national accounts. These conventional economic relationships are represented by the dotted lines in the figure. However, as the Stiglitz report correctly points out, there are a number of areas in which standard economic theory does not provide an adequate picture:

32. Firstly, in most cases the economic mainstream literature and the system for national accounts do not take into account social capital and non-market natural capital. Similarly, in the conventional approaches the definition of commodities is often confined to market-based activities.

33. Secondly, conventional economic analysis relates human wellbeing primarily to consumption. It is assumed that “utility” is only achieved through the consumption of goods and services. A wide range of social sciences literature convincingly shows that human wellbeing is affected by a greater range of factors than consumption (and most certainly when the definition of “consumption” in the national accounts is used). These additional factors are displayed with full lines .

34. On the basis of these notions two additional causal links are added in figure 2 (full lines). The first line indicates that capital may have a direct effect on human wellbeing. For example, it has often been shown that persons with a higher educational level achieve a higher level of wellbeing, even when corrected for other factors. The second line shows that the distribution of income, consumption and capital may influence the wellbeing of individuals.

35. With the help of this conceptual framework the main building blocks of a SDI set as well as they way in which they are interrelated, can be established. At least such a set of indicators should consist of objective as well as subjective indicators relating to the human wellbeing of the current generation. When turning to the factors which determine human wellbeing, it becomes clear that a SDI set should not be restricted to indicators on consumption. Also information on distribution and the different types of capital should be included. Capital indicators are of great importance as they do not only affect current quality of life, but are also of vital importance in securing the possibilities of future generations to ensure their wellbeing.

36. The growing amount of literature on issues regarding welfare and sustainable development has had a substantial impact on the ways in which statisticians attempt to quantify these concepts. Until the 1980s composite indicators, which attempted to combine different aspects of sustainable development and quality of life into one single number, were quite popular. However, from the 1990s onwards many countries and international organisations have chosen to develop ‘indicator sets’ rather than composite indicators. An advantage of indicator sets is that they can be used to analyse relationships between several ‘sustainability themes’, where composite indicators generally conceal these trade-off relationships. However, because these sets often include many indicators they are more challenging to communicate to a wider audience.

37. The growing consensus between statisticians becomes evident when comparing SDI sets as built by different national and international organisations. In section I of the report a systematic comparison has been made of SDI sets that have been created by the United Nations (CSD and MDG), Eurostat (SDI set), OECD (Progress measurement framework) and seven countries. The analysis of the commonalities shows that there are a number of themes that are dominant, which include labour, health, education, climate and ecosystems.

B. Section II: measuring sustainable development

38. Section II of this report describes the ‘state of the art’ of the measurement of human wellbeing and sustainable development on the basis of academic literature and statistical handbooks. The aim of this section is to identify the themes which should be part of a sustainable development framework and to propose so-called ideal indicators which cover these themes.

39. The broad overview that was given in section I may serve as a good starting point to discuss the concept of sustainable development, but it does not give us a clear idea as to which aspects of human wellbeing and capital should be taken into account. The concepts of wellbeing, quality of life and sustainable development are that all-encompassing, that we run the risk of ending up with a ‘theory-of-everything’: a dataset which basically covers all topics that make life pleasant in the longer and/or shorter run.

40. In this report we solve this issue by means of a thorough study of the theoretical and methodological literature on wellbeing and capital. Besides, by browsing through datasets from statistical bureaus and international agencies, a comprehensive overview of relevant themes can be given. This combination of academic insights and practical data availability results in a list of sustainability themes and suggested ideal indicators at the end of this section.

1. Human wellbeing

41. As there are no clear-cut theories which have resulted in the establishment of statistical standards, the selection of wellbeing themes will largely be based on a thorough screening of existing datasets. In section I of this report it was already concluded that there is broad consensus as to how to measure the main aspects of wellbeing and sustainable development. The Stiglitz report distinguishes the domains which seem to capture well the basic aspects of human wellbeing.

42. The dashboard on human wellbeing makes a distinction between personal needs and social needs. Besides, a distinction is made between basic (physiological) and other (non physiological) needs. This differentiation is especially important when building world-wide datasets. The category of ‘limitations/risks’ stresses the ways in which the freedom of individuals to pursue their welfare goals may be constrained. Already in the 1940s Maslow underlined the importance of these limitations, a notion that has also been put forward by

Sen in his functioning and capability approach. The Eurostat feasibility report on wellbeing uses a similar theoretical justification.

2. Capital

43. The choice of themes could rather easily be derived from the literature on capital theory and on economic growth literature. Besides, this choice is also based on the statistical practice as it is formulated in specific handbooks and statistical standards (such as the system of national accounts (SNA), the system of economic and environmental accounts (SEEA), handbook on measuring capital). The chapter will also deal with defining capital, role of technology in assessing sustainable development from capital perspective and the limitations of the capital approach. Capital here is defined in a broad sense, incorporating ecological and social phenomena that are often not measurable in monetary terms. Several assets are better measured in physical terms and the difficulties related to measuring their stocks and flows are acknowledged.

3. Economic and financial capital

44. The measurement of economic and financial capital is governed by the System of National Accounts, which is one of the most important statistical standards available. On a global scale financial capital is a zero-sum capital stock. For every liability there is an equal in value and opposite in sign asset. However, if we take the national boundary as the demarcation line there is the possibility that the assets exceed liabilities or vice versa.

4. Human capital

45. Human capital concerns itself with market and nonmarket labour of individuals and the quality of this labour. It focuses on individuals and their characteristics rather than interconnections between individuals as does social capital.

46. Human capital is impacted by education, market and nonmarket work versus leisure decisions, birth rates, and individual's health, including their longevity. For the moment we will restrict ourselves to the discussion of education. The educational levels in a country are important for future welfare because a high quality workforce can produce more per capita and might lead to multifactor productivity improvements. However, it has also been shown that persons with higher educational levels also have higher levels of life satisfaction. Education is therefore an important component of sustainable development.

47. It should be noted that human capital, measured in terms of education, is strictly seen as an input factor, as a type of capital. Of course, it is acknowledged that education and health both are important drivers of wellbeing. These aspects are also emphasized in the part of the report which deals with human wellbeing.

5. Natural capital

48. The discussion of the measurement of natural capital starts with the system of environmental and economic accounts (SEEA). The 2003-version of the SEEA is currently being updated and is expected to become a statistical standard within two years.

49. The SEEA is a satellite accounting system of the System of National Accounts (SNA). This means that it uses the national accounting concepts and principles to measure environmental aspects of society. In some areas it may choose to expand concepts. One area in which the SEEA differs from the SNA is the definition of an asset. The SEEA is broader in its definition so that it can incorporate "public goods" such as ecosystems".

50. Natural capital is not just a capital stock, but it is also critical for the survival of life. There are certain limits which should not be exceeded. The measurement of these limits is

difficult (Röckstrom et al, 2009) but is a very important challenge in the measurement of sustainable development.

6. Social capital

51. Social capital has its roots in sociology, but has gradually become an important topic for political scientists and economists. A survey of the literature reveals that social capital is a multi-dimensional phenomenon.

52. Social capital should be defined in terms of networks as well as the trust and the shared norms and values that are being generated within these networks. The inclusion of trust is important as it comes closer to the concept of capital in an economic sense. From an *investment perspective*, one may prefer to focus on networks (individuals invest in networks as they expect network participation to increase their competitive strength). However, capital theory also shows that the investments result in building up a capital stock. The changes in the size of the capital stock can be followed in the course of time. From a *capital stock perspective* (following Fukuyama and to some extent Putnam), a focus on trust is needed. Rising or declining levels of trust can be interpreted in terms of a change in the volume of capital, whereas a change in the size of a network in itself has no meaning (a network can increase in size, while the frequency and quality of contact between its members actually declines). Even though far more difficult to measure, shared norms and values can be seen as a capital stock that is built up due to increasing social interactions.

53. Social capital should refer to citizens as well as institutions. The indicators suggested for the social capital of citizens and on institutions are in line with the recommendations of the WGSSD and of the Stiglitz Report.

7. Total wealth

54. Last but not least attempts are made to estimate the total amount of wealth (the monetized sum of all types of capital). The only dataset which comes close to this ideal are the wealth estimates produced by the World Bank. For approximately 150 countries measures of total wealth, with additional information on economic and natural capital, are presented for the period 1970-present.

55. The World Bank approach is valuable as it gathers and presents a wide range of data covering large parts of the world, but there are still a number of serious data-related and methodological problems that need to be addressed as was also indicated in the WGSSD report.

8. International dimension

56. The international dimension is an important aspect of the Brundtland report. The report clearly included the concept of equity between countries. In a globalized world the international relationships between countries are becoming more and more important.

57. A country can influence many aspects of society in other countries. However, many of these are very difficult to measure. For example, it seems fairly clear that the rapid impact of international trade has had an effect on the social structures of society, but it is hard to quantify.

58. There are a number of areas which are more easily measured. There are the direct income transfers (official development aid, remittances) from the developed to the developing world. Furthermore, it is also possible to measure certain environmental relationships. For example, there are the direct imports of resources (energy, metals and non-metals). However, there are also “footprint” indicators which calculate the

environmental pressures that are attributable to consumption both in the country itself and aboard (e.g. the ecological footprint).

9. The selection of sustainability themes and proposed indicators

59. On the basis of the literature discussed in this section of the report, a list of 27 sustainable development themes has been identified. In the next paragraph we will discuss the choice of indicators and two alternative ways of setting up a SDI set. Note that the list of themes was discussed at the last meeting of the TFSD. Even though there was consensus regarding this approach the list is by no means definite. Some of the themes in this list may be combined in more general themes in order to reduce the number of topics.

C. Section III: sustainable development indicators

60. Section III of the report focuses on selecting an actual set of Sustainable Development Indicators (SDI) which is based on the methodological issues discussed in Section II. However, in the selection process also the practical aspects of data availability as well as the quality criteria of official statistics are taken into account. Finally, the policy relevance of the dataset is discussed. It is not our aim to provide a “one size fits all” system, but rather to provide a number of alternatives that can be varied, depending on the objective of the user. The only restriction is that the conceptual link to the measurement theory of section II is maintained.

61. There are basically two ways to present the SDI set:

(a) Conceptual categorization (Table 1): In this SDI set the dashboard is split into the conceptual categories: current human wellbeing, capital (as a pre-condition of future human well-being) and the international dimension. This dashboard consists of headline indicators which are chosen on conceptual grounds³;

(b) Policy categorization (Table 2). In this SDI set the themes are the basis for organising the dataset along the lines of policy areas. Here, the same headline indicators are presented as in the conceptual dashboard, but now they are categorized along more conventional (thematic) lines which represent classical policy themes. Here for each theme, it is possible to connect *sub indicators* to the headline indicators. Where the headline indicators indicate how society is doing in terms of its human wellbeing (‘here and now’, ‘elsewhere’ or ‘later’), the sub indicators indicate how society (and policy makers in particular) might reverse (or stimulate) certain negative (or positive) trends.

³ Those who adhere to an integrated view of sustainable development (i.e. focusing on the quality of life of the present as well as future generations) may use all themes in their SDI set. However, those who view sustainable development essentially as an inter-generational concept, can select the capital indicators from the light and dark grey areas of this table. Finally, those who prefer the monetised wealth estimates can confine themselves to the monetary aggregates in the dark grey area of Table 1

Table 1
Sustainable development themes: conceptual classification

<i>Classification</i>	<i>Sub-classification</i>	<i>Themes</i>	
Current human wellbeing ('here and now')	Overarching indicators	HWB-A-Wellbeing	
		HWB-B-Consumption	
		HWB-C- Income	
	Personal needs, Basic physiological needs	HWB1. Nutrition	
		HWB2. Health	
		HWB3. Housing	
		HWB4. Air quality	
	Personal needs, Non-physiological needs	HWB5. Education	
		HWB6. Leisure	
		HWB7. Labour	
	Personal needs, limits, risks	HWB8. Economic security	
		HWB9. Inequality	
		HWB10. Physical safety	
Social needs	HWB11. Trust		
	HWB12. Shared norms and values		
	HWB13. Institutions		
Capital (pre-condition of future human well-being, 'later')	Economic capital	EC1. Physical Capital	
		EC2. Knowledge Capital	
	Financial capital	FC1. Financial capital	
	Natural capital	NC1. Land	
		NC2. Energy reserves	
		NC3. Metal and non-metal reserves	
		NC4. Ecosystems	
		NC5. Soil quality	
		NC6. Water quality	
		NC7. Water quantity	
		NC8. Air quality	
		NC9. Climate	
		Human capital	HC1. Labour
			HC2. Education
	HC3. Health		

<i>Classification</i>	<i>Sub-classification</i>	<i>Themes</i>
	Social capital	SC1. Trust SC2. Shared norms and values SC3. Institutions
	Monetary aggregates	EC-M Economic and financial capital HC-M. Human capital NC-M. Natural capital SC-M. Social capital EW-M Economic wealth
International dimension ('elsewhere')	Income	INT-C-Income
	Natural capital	INT-NC1. Land INT-NC2. Energy reserves INT-NC3. Metal and non-metal reserves INT-NC7. Water quantity INT-NC9. Climate

Table 2

Sustainable development themes: thematic classification

<i>Themes</i>	<i>Code</i>		
	Human wellbeing	Capital	International dimension
Wellbeing	HWB-A		
Consumption	HWB-B		
Income	HWB-C		INT-C
Nutrition	HWB1		
Health	HWB2	HC3	
Housing	HWB3		
Education	HWB5	HC2	
Leisure	HWB6		
Inequality	HWB9		
Physical safety	HWB10		
Trust	HWB11	SC1	
Shared norms and values	HWB12	SC2	
Institutions	HWB13	SC3	

<i>Themes</i>	<i>Code</i>		
Land		NC1	INT-NC1
Energy reserves		NC2	INT-NC2
Metal and non-metal reserves		NC3	INT-NC3
Ecosystems		NC4	
Soil quality		NC5	
Water quality		NC6	
Water quantity		NC7	INT-NC7
Air quality	HWB4	NC8	
Climate		NC9	INT-NC9
Labour	HWB7	HC1	
Economic security	HWB8		
Physical Capital		EC1	
Knowledge Capital		EC2	
Financial capital		FC1	
Monetary aggregates			
Economic and financial capital		EC-M	
Human capital		HC-M	
Natural capital		NC-M	
Social capital		SC-M	
Economic Wealth		EW-M	

1. Advantages of the conceptual categorisation

62. *Confrontation “here & now”, “elsewhere” and “later”.* The primary advantage of the conceptual categorization is that it enables the user to immediately detect the fundamental trade-offs between human wellbeing in the “here and now”, “elsewhere” and “later”. This way of presenting the data is rather unconventional, as most sustainable development indicator sets distinguish different policy areas. However, presenting indicators according to the policy themes makes it difficult to track down the fundamental trade-offs of human wellbeing between the current and future generations, or between people living in high income countries versus those living in the developing regions. This conceptual monitoring system will therefore serve the purpose at identifying the main problematic areas.

63. *Close connection to measurement theory.* The classification into human wellbeing, capital and the international dimension is closely linked to the measurement theory presented in section II of this report. This also means that expansions of the system, such as satellite accounts or household accounts, are better suited to this structure. Also, for modelling purposes, the conceptual approach has clear advantages.

2. Advantages of the policy categorisation

64. *Terminology of policy makers.* In the thematic approach the classification system is far more suited to the language and societal dimensions which policy makers recognize. Note that just because a policy approach is adopted, it does not mean that it is not a conceptual approach. Clearly all themes are still connected to the themes which were derived from measurement theory in section II.

65. *Sub-indicators for policy.* The policy approach also makes it far easier to introduce sub-indicators which give additional information and which are aimed at giving policy makers the tools to reinforce existing positive trends or to reverse negative trends. For example, next to the capital stock indicators, sub-indicators with information on investments or efficiency (productivity) are added, as they give additional information as to how society can enter a more sustainable growth path. (these sub indicators are given in ECE/CES/2011/4/Add.1, Table A2).

3. The use of one or both categorizations

66. In a way the conceptual and policy categorization can be seen as complements. The conceptual set aims at monitoring the main trade-offs while the policy set tracks the progress and sub-indicators for individual policy themes. Both these presentation styles (conceptual and policy oriented) can be used in combination, but it is also possible to select only one of them.

4. Choice of indicators

67. First, the actual availability of data is being scrutinized. This is done by browsing through a large number of datasets from statistical offices as well as international organizations such as the OECD, the World Bank, United Nations and Eurostat. ECE/CES/2011/4/Add.1 part 2 gives an overview of the data availability.

68. Next, the quality criteria for official statistics are discussed. This is important because it provides guidance on the minimum standards that the indicators in an SDI set must fulfill.

69. A number of concrete ways of assessing the quality of indicators is suggested:

- (a) Theory. Does it measure what we want to measure?
- (b) Assumptions. Which assumptions are used?
- (c) Consensus: How commonly used is an indicator in the statistical world?

70. Apart from presenting the outline of an actual SDI set, section III of the report also discusses different ways in which the results can be visualized and communicated. Exploring different visualization techniques can be important in the light of the relatively large number of indicators suggested in this report. However, visualization and communication techniques may be helpful in getting the main message through to a general audience (for example by means of data reduction).

D. Section IV: conclusions

71. The report proposes an SDI set which is based on the conceptual framework as presented in section I and working on the basis of the methodological considerations that were discussed in section II. This SDI carefully distinguishes current from future human wellbeing. The needs of the current generation are expressed in objective as well as subjective terms. The inter-generational aspects of sustainable development are described with capital indicators (using a broad capital framework encompassing economic, human,

natural and social capital). Last but not least, international trade-offs in human wellbeing (especially between rich and developing countries) are measured.

72. Even though in many cases no ideal indicators can be found, in most cases good proxies are available. A thorough survey of the data availability indicates that most indicators can be derived from the existing datasets.

73. Basically the same data can be presented in two different ways. The conceptual dashboard stresses the main trade-offs of human wellbeing 'here and now', 'elsewhere' and 'later'. The policy dashboard organizes the data in a more straightforward manner and classifies them along the lines of classic policy domains (for examples see annex 2 on data availability).

74. The report ends with main conclusions and recommendations for further work in the field of sustainable development.



Economic and Social Council

Distr.: General
5 April 2011

English only

Economic Commission for Europe

Conference of European Statisticians

Fifty-ninth plenary session

Geneva, 14-16 June 2011

Item 6c of the provisional agenda

Manuals, guidelines, recommendations, frameworks, etc. prepared under the auspices of the Conference

Proposed indicators that could be used to measure sustainable development

Note by the joint United Nations Economic Commission for Europe/Eurostat/Organisation for Economic Co-operation and Development Task Force on Measuring Sustainable Development

Summary

The present note constitutes an addendum to the document ECE/CES/2011/4 “Summary of the report on measuring sustainable development”. It presents the themes and possible indicators that could be used for measuring sustainable development. It also includes an overview of data availability of selected indicators. At the end is presented the table of contents of the full report of the Task Force on Measuring Sustainable Development.

Introduction

(The list of themes and indicators below was discussed by the Task Force in November 2010. There is a large amount of agreement on this approach, but this list can by no means be seen as the definite outcome of the Task Force!)

1. This Addendum discusses indicators that might be adopted for sustainable development. The indicators are discussed according to the themes that have been identified in the summary. Note that the themes are structured according to the policy categorization (see table 2). Distinctions are made between headline indicators and the sub-indicators as well as indicators for the international dimension. In annex 2 the data availability of these indicators for EU and OECD countries is recorded.

2. One of the main problems when building a sustainable development indicator (SDI) set is that it is hard to select indicators which are relevant for a wide set of countries. Especially concerning the current quality of life issues, a dashboard for the European Union will for example be very different from one that is specifically designed for sub-Saharan Africa. The report does not aim to present the reader a one-size-fits all SDI set, as it might be too much of a straight jacket in which indicators need to be 'squeezed' in an unnatural and unsatisfactory way. It was attempted to arrive at an approach in which dashboards for different parts of the world are comparable in the themes that are relevant, but flexible enough to address the issues which are of particular interest for the regions or countries in question. This is why in the discussion below, we clearly identify if there are country specific indicators conceivable.

3. It is important to realize that the themes are therefore 'universal', however the actual indicators that are used to describe the themes may be different in different countries. This approach will enable the user to monitor sustainable development world-wide by looking at the same themes and policy areas, but in a way which does justice to country or region specific factors.

4. In the list we identify headline and sub-indicators. The sub-indicators provide insight into how the headline indicators can be influenced and are therefore relevant for policy makers.

I. Wellbeing

A. All countries

5. *Headline:* An overall measure of the wellbeing of the population is required. In practice this is derived from a questionnaire in which the "life satisfaction" is surveyed. Overall, these are preferred over indicators that survey the "happiness" of respondents.

II. Consumption

A. All countries

6. *Headline:* The Stiglitz report emphasized the use of income and consumption measures and also to measure these from the perspective of the household. We therefore propose to use adjusted consumption per capita, including government consumption.

III. Income

A. Developed countries

7. *Headline:* The Stiglitz report recommends the use of net national income and household income measures.

8. *Sub-indicators:* Since GDP is a measure of economic activity it is an important driver of income growth. Also it would be useful to measure productivity (labour, capital and multifactor-productivity as sub indicators for this theme).

9. *International:* Here the direct income measures from the developed world to the developing countries can be used (e.g. Official Development Assistance (ODA) and remittances).

B. Developing countries

10. *Headline:* For developing countries it is probably good to have specific measures on poverty.

IV. Nutrition

A. Developed countries

11. *Headline:* The Maslow hierarchical structure obviously has an important place for food. However, the problem of under nourishment is not of major concern in the developed countries. Therefore, high-income countries may decide not to use this theme in their dashboards. In fact our analysis of commonalities shows precisely this. The problem of obesity, which is related to nutrition, is a sub-indicator for health rather than a good reflection of the importance that food plays in Maslow's pyramid.

B. Developing countries

12. *Headline:* For the developing countries the issue of under nourishment and even starvation are truly important indicators of sustainable development. Conceptually an indicator is required which shows the deficit between a balanced diet (both in terms of calories as well as vitamins and minerals) and the actual diet which the population gets.

V. Health

A. All countries

13. *Headline:* The indicator should provide a summary value for the total physical and mental health of the population. The analysis of commonalities between SDI indicators shows that nearly all countries use the life expectancy of healthy life expectancy. Although this is not the perfect measure of physical health, it is used in SDI sets very often because of the abundant data (both in space and time). Similarly, the suicide rate seems to be used by many countries as sort of proxy for mental wellbeing of the population.

14. *Headline (Human Capital)*. This indicator should show the potential “stock of physical and mental health” which is present in population. It would show the number of years in good health that can be expected in future. For example, a number of indicators exist in the literature which tracks the “remaining healthy life years”. This is also sometimes referred to as “years of healthy life remaining”.

15. *Sub-indicators*: The level of health expenditures is an obvious sub indicator. However, lifestyle indicators (obesity, smoking, drinking and sports) are clearly also important driving forces for overall physical and mental health.

B. Developing countries

16. *Sub-indicators*: Apart from the above sub-indicators one might also have some indicators which are specific for the health situation in developing countries. Examples include: the prevalence of physicians and hospital beds per person but also indicators that are related to major diseases such as HIV/AIDS and malaria.

VI. Housing

A. All countries

17. *Headline*: Here, we are looking for an overall measure of the quality of the dwellings that people live in. Of course, the housing conditions are multifaceted and difficult to measure in a single measure. Indicators that come close are the living space (square meters per person) or the number of dwellings without deficiencies (leaking roofs etc.).

18. *Sub-indicators*: Sub-indicators include the investment in dwellings, the affordability as well as the availability of dwellings (i.e. what percentage of the population wants to move but is unable to find an appropriate dwelling).

B. Developing countries

19. *Headline*: In developing countries it is probably good to have indicators about people with inadequate housing (slum dwellers, homeless people (children)).

VII. Education

A. All countries

20. *Headline*: For the quality of life aspects of education we are looking for the average level of competencies and education. Happiness literature has shown that life satisfaction grows as these characteristics grow in the population. The level of skills and competencies goes beyond education but these indicators are regularly used (Educational attainment of population). There are however also measures of competencies such as PISA scores (for youngsters) as well as PIAAC scores (for whole population). The measurement of these indicators is organised by the OECD.

21. *Headline (Human Capital)*: see Labour

22. *Sub-indicators:* As sub-indicators one might use the expenditures on education as well as indicators that threaten the overall educational level of the population (e.g. early school leavers).

B. Developing countries

23. *Headline:* In the developed world, access to education is more or less universal. This is not the case for the developing world where it would be good to measure enrolment rates at every level of education.

VIII. Leisure

A. All countries

24. *Headline:* Here we would want to measure the quantity and quality of leisure. In practice it is hard to measure the quality of leisure but it is possible to measure the time spent on leisure through time use surveys.

IX. Inequality

A. All countries

25. *Headline:* There are many types of inequality in societies. There may be overall income inequality, gender inequality, inequality in educational attainment etc. For each type there are proxy indicators such as the Gini coefficient available.

X. Physical safety

A. All countries

26. *Headline:* Here one would want to measure the overall level of crime. However, the severity of the crimes may vary significantly and so it is conceptually problematic to come to a single indicator. Nevertheless there are indicators for the amount of personal crimes or violent crimes that may be used.

27. *Sub-indicators:* Here one might want to measure expenditures of policing or the number of police staff.

B. Specific countries

28. *Headline:* Some countries experience natural hazards, which is obviously also important for the physical safety.

XI. Trust

A. All countries

29. *Headline:* Here we want to measure the quality and quantity of social relationships (generalized trust), trust within subsections of society (family/neighbourhood) as well as the trust between groups in society (bridging social capital). In practice, these are very difficult concepts to measure. To measure overall trust, the indicators of generalised trust are often used (respondents are asked whether they trust other members of society). There are also social survey questions that can be used for family and neighbourhoods. Finally, bridging social capital may be answered by certain questions that indicate social exclusion (e.g. discrimination).

30. *Sub-indicators:* Here the investment perspective is important. We can track the time spent on family, friends and volunteering.

XII. Shared norms and values

A. All countries

31. *Headline:* Here one would want to measure the extent to which the members of the population share crucial norms and values. We know of no indicators to measure this phenomenon.

XIII. Institutions

A. All countries

32. *Headline:* An indicator of the quality of the institutions in society. This is of course very difficult because the institutions are very heterogeneous. There are however overall indicators in which the general public are asked to assess the quality of institutions in their country. Also the work of De Soto is very useful because it measures the time it takes to overcome bureaucratic procedures.

B. Developing countries

33. *Headline:* In the case of developing countries it may be good to add indicators for the level of corruption.

XIV. Land

A. All countries

34. *Headline:* Here the area and value of land are in question. Although it does provide useful insights about the population density in a country, the development of this index is, of course, rather interesting. It is therefore conceivable that countries leave this indicator out of the SDI set.

35. *International dimension:* An interesting aspect of land is that, through our consumption, we are implicitly using land of other countries. This is also the guiding philosophy of the ecological footprint. In our dashboard for the international dimension we attribute the land use to consumption and the land “balance of trade”.

XV. Energy reserves

A. All countries

36. *Headline:* Here the total physical and monetary stock of energy reserves are in question. The measurement of these will be covered by the SEEA-2012.

37. *Sub-indicators:* The extraction and discoveries are important sub-indicators. Also the energy use, energy intensity and share of renewables are very relevant.

38. *International dimension:* For the international dimension we can track the direct imports from other countries as well as the “energy embodied in consumption” and the “balance of trade” (see land).

XVI. Metal and non-metal reserves

A. All countries

39. *Headline:* Here the total physical and monetary stock of metal and non-metal reserves are in question. The measurement of these will be covered by the SEEA-2012.

40. *Sub-indicators:* The extraction and discoveries are important sub-indicators. Also the material use, intensity and waste are very relevant.

41. *International dimension:* see energy

XVII. Ecosystems

A. All countries

42. *Headline:* An overall measure of state of biodiversity is very difficult. The Task Force has not yet identified a way forward.

43. *Sub-indicators:* Here the indicators on extinctions or threatened species as well as the land area for forest and nature may be used.

XVIII. Soil quality

A. All countries

44. *Headline:* The soil quality of a country varies and it is therefore difficult to measure a country average. However, it is possible to measure the quality of the soil in terms of the stock of pollutants such as nitrates and phosphates in the soil.

45. *Sub-indicators:* The emissions to soil should be measured.

B. Developing countries

46. *Headline:* For developing countries, the issue of erosion may be very relevant.

XIX. Water quality

A. All countries

47. *Headline:* The overall quality of water is again very difficult but can be approached using the stock of pollutants. Also the Biochemical Oxygen Demand (BOD) index is often used.

48. *Sub-indicators:* The emissions to water are relevant

XX. Water quantity

A. All countries

49. *Headline:* Here the overall amount of (fresh) water is meant. The SEEA admits that for many countries, where water is not a scarce commodity, this may not be a very relevant indicator.

50. *Sub-indicators:* The extraction and use of water would be appropriate sub-indicators.

51. *International dimension:* Here we can calculate the “water footprint” (see land)

B. Developing countries

52. *Headline:* Specific information about the access to water is important since this is not a universal resource for all citizens in the developing world.

XXI. Air quality

A. All countries

53. *Headline:* The overall air quality is difficult to measure but measuring certain pollutants that affect health provides a good proxy (Particulate matter, tropospheric ozone).

54. *Sub-indicators:* The emissions of these pollutants.

B. Selected countries

55. *Headline:* In some countries smog may be an common phenomenon.

XXII. Climate

A. All countries

56. *Headline:* Since this a global stock it should be measured by the CO₂ concentration or the global temperatures. Also the state of the ozone layer would be a good indicator for this problem. If one wants to assign a national responsibility to the reductions in these capital stocks one would need to see what the accumulated emissions are. For example, using the CDIAC database one could calculate the historical CO₂ emission of country.

57. *Sub-indicators:* Here the emissions and intensity of greenhouse gas emissions (and ozone precursors) should be measured.

58. *International dimensions:* Here the embodied carbon in consumption and the “carbon balance of trade” can be measured (see land).

XXIII. Labour

A. All countries

59. *Headline:* The largest impact on quality of life is of course the fact that one has job or not. Therefore the unemployment rate seems to be a good indicator for this dimension.

60. *Headline (Human capital):* With respect to measuring the capital stock we want to know what the potential labour volume is in future. This therefore means that we want to extrapolate the number of hours that will be worked towards the future. We can do this by looking at the current working hours, labour participation and pollution pyramid to estimate how much work we can expect in future. This exercise would in a sense be a sort of non-monetary Jorgenson-Fraumeni approach. Ideally one would also want to correct for the relative productivity in those hours. This could be done through the monetary Jorgenson-Fraumeni or by providing other weights for the relative productivity. However these measures are not available for a large number of countries so we can take the hours worked and the participation rates as non-monetary proxies.

61. *Sub-indicators:* Additional indicators on the labour market, such as the “average exit age from labour market” may be useful here.

B. Developing countries

62. *Headline:* For some developing countries the working conditions will also be of influence on the quality of life. Indicators for working conditions and child labour may be useful.

XXIV. Economic security

A. All countries

63. *Headline:* The ability to have an income in future is an important component in the quality of life surveys. Indicators for the sum total of assets of household (house ownership, savings) may be useful as well as the pension reserves.

64. *Sub-indicators:* Pension payments and household savings may be good sub-indicators.

XXV. Physical capital

A. All countries

65. *Headline:* This capital stock should provide a summary value of the stock of machines, buildings and infrastructure. The methods do to this are summarized in the handbook on “Measuring Capital” (OECD)

66. *Sub-indicators:* Overall gross capital formation (investment) or specific investments (ICT) may be used.

B. Developing countries

67. *Headline:* For developing countries it may be useful to measure some non-monetary aspects: length of paved roads, railways, number of mobile phones, internet connections

XXVI. Knowledge capital

A. All countries

68. *Headline:* Here the total stock of knowledge should be measured. Although innovation is far broader, the stock of R&D capital is often taken as a proxy. The conceptual aspects of measuring this capital type are currently being developed in the wake of the SNA 2008.

69. *Sub-indicators:* R&D investments (public and private may be useful summaries). Also other indicators for innovation may be used.

XXVII. Financial capital

A. All countries

70. *Headline:* Here the national totals of assets minus liabilities from the SNA may be used.

71. *Sub-indicators:* Specific forms of debt, such as government or household debt may be used.

XXVIII. Monetary values of the capital stocks

A. All countries

72. *Headline:* For these indicators the monetary values for economic and financial capital, human capital, natural capital and social capital are used. The methodology can be derived from handbooks (SNA, SEEA, Measuring capital (OECD)). However in some

cases, natural and social capital, methods are problematic or non-existent respectively. The “Economic Wealth” aggregate is the sum of these capital stocks.

73. *Sub-indicators*: Investments in these capital stocks.

Table A2.
Policy classification

	Indicator	Source	Global	Australia	Austria	Belgium	Bulgaria	Canada	Chile	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Israel	Italy	Japan	Korea	Latvia	Lithuania	Luxembourg	Malta	Mexico	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom	United States						
Wellbeing	Life satisfaction (score)	Euro-barometer, WHD		V	D	D	D	V		D	D	D	D	D	D	D	D	D		D		D	V	V	D	D	D	D	V	D		V	D	D	D	D	D	D	D	D	D	D	D	V					
Consumption	Household consumption (Euro)	Eurostat, OECD		D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
Income	Net national income (Euro)	Eurostat, OECD		D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
	GDP (Euro)	Eurostat, OECD		D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
	Labor productivity (growth rate)	Eurostat, OECD		D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
	Multifactorproductivity (growth rate)	Eurostat, OECD		D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
Nutrition	Obesity	Eurostat			D	D	D			D	D	D	D	D	D	D	D	D	D	D						D	D																						
Health	Healthy life expectancy (years)	Eurostat			D	D	D			D	D	D	D	D	D	D	D	D	D						D	D	D	D																					
	Life expectancy (years)	Eurostat, OECD			D	D	D	D		D	D	D	D	D	D	D	D	D	D	D						D	D	D	D																				
	Suicide death rate (deaths per 100,000)	Eurostat, OECD			D	D	D	D		D	D	D	D	D	D	D	D	D	D	D						D	D	D	D																				
	Expenditures on health (Dollars PPP)	OECD			D	D	D				D	D			D	D	D	D	D	D						D	D																						
	Smoking (%)	Eurostat, OECD			V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V					V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	Obesity (5)	Eurostat, OECD			V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V					V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Housing	Living without housing deprivation (%)	Eurostat			D	D	D			D	D	D	D	D	D	D	D	D	D						D	D	D	D																					
	Investments in housing																																																
	Availability																																																
	Affordability																																																
Education	Educational attainment (% of pop. with higher sec. edu.)	Eurostat, OECD		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D					D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Competencies (PISA)	OECD		V	V	V		V	V		V	V		V	V	V	V	V	V	V						V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
	Expenditures on education (% of GDP)	Eurostat, OECD		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D					D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Educational attainment of young adults (% young adults)	Eurostat			D	D	D			D	D	D	D	D	D	D	D	D	D	D						D	D	D	D																				
	Early school leavers (% of young adult not in school)	Eurostat			D	D	D	D		D	D	D	D	D	D	D	D	D	D	D						D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
Leisure	Time spent on recreation (hours)	MTUS		V	V			V				V		V	V	V																																	
Inequality	Inequality (income quintile)/Gini	Eurostat, OECD		D	D	D	D	D		D	D	D	D	D	D	D	D	D	D	D					D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
Physical safety	Victim of burglary/assault (% of households)	Eurostat			D	D	D			D	D	D	D	D	D	D	D	D	D						D																								
	Expenditures on safety (%)																																																
Trust	Generalised trust (Score)	ESS				D	D			D	D	D	D	D	D	D	D	D	D						D																								
	Bridging social capital indicator (% discriminated)	ESS			D	D	D			D	D	D	D	D	D	D	D	D	D						D																								
	Satisfaction with family life	ESS			V	V	V			V	V	V	V	V	V	V	V	V	V						V	V	V	V	V																				

XX. Structure of the full report of the Task Force on Measuring Sustainable Development

A. Part 1: executive summary and recommendations

B. Part 2: short narrative

Basically an update of the summary as presented in this document

C. Part 3: TFSD final report

1. Section 1. Conceptual framework

Introduction

Perspectives on sustainable development

2. Section 2. Measuring sustainable development

Introduction

Measuring human wellbeing

Measuring capital (economic, human, natural and social capital)

Measuring economic wealth

Measuring the international dimension

3. Section 3. Sustainable development indicators

Introduction

An SDI proposal

Visualisation and dissemination

4. Section 4. Conclusions

Conclusions, recommendations and future work

D. References

Consultation on the Summary of the Report of the Joint UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development

Deadline for reply: April 18th 2011.

This consultation aims to collect your views on the extended Summary of the report of the Joint UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development (TFSD). The TFSD would appreciate if your comments are structured along the questions provided below. Any relevant documents and references to country experiences, including references to Sustainable Development Indicator (SDI) sets can be attached to the questionnaire.

Country:	
Institution:	
Contact person:	
Phone:	E-mail:

Questions

- Overall assessment.* Do you find the Report's basic approach to the measurement of sustainable development relevant, practical and comprehensive in terms of the**
 - underlying concepts
 - coverage
 - relevance for statistics at a national level
 - appropriateness for official statistics
- Conceptual vs. thematic categorization.* The Summary includes a conceptual and a thematic categorization of Sustainable Development Indicators (SDI). In the conceptual categorization, three dimensions are distinguished: current human wellbeing, future human wellbeing ("capital approach") and the international dimension. In the thematic approach, sustainable development is split into policy themes (education, health, etc). Both approaches have advantages and disadvantages, which are articulated in the Summary. **Do you see advantages in linking the conceptual and thematic categorisation? How useful do you consider the conceptual approach for measuring sustainable development and developing national SDI sets?****
- SDI experiences.* Do you have a system of Sustainable Development Indicators in your country?**
 - If yes,
 - Indicators/themes*
Are there indicators or themes in your SDIs that are not mentioned in the Summary?
 - Number of indicators*
From your experiences with stakeholders, **what is the optimal number of indicators in an SDI set a) for communication, b) for analysis of trends and c) for monitoring of objectives?**
 - "Small" set of indicators*
The TFSD was mandated to propose a "small" set of SDI indicators. However, the number of SDI proposed in the Annex 1 to the Summary is still quite large. Potential methods to reduce the number of SDI include visualisation, monetization, mathematical techniques, combining themes or introducing a hierarchical structure (headline/level 2 and level 3 indicators). **Does your country have experience any of these, or other, approaches to reduce the number of indicators?** If so, please, elaborate.
 - If no,
 - Are there plans to start work on SDI's in your country?** If yes, please elaborate.

4. *Measurement experiences.* The TFSD plans to include an overview of countries' measurement experiences with regard to the three dimensions of sustainable development under the conceptual categorization mentioned above. Any references/documents would be greatly appreciated.

a) *Current wellbeing*

Does your country have experience/work in progress/plans in measuring human wellbeing and quality of life (both objective and subjective measures)?

b) *Capital*

Does your country have experience/work in progress/plans in measuring capital stocks of natural, human and social capital? Do you have an opinion on the "limits of monetization" when it comes to capital measurement? The TFSD has a specific interest in making an inventory of projects on social capital since the methodological challenges are greatest here. **Does your country have any experience in measuring social capital?**

c) *International dimension*

Does your country have experiences/work in progress/plans in measuring the international dimension of sustainable development, such as ecological footprint calculations?

5. *Data availability.* The Annex 2 in the Summary shows the data availability of the proposed SDI set in a number of international databases (for the EU and OECD countries). However, there are a number of indicators that were not available in these databases. **Please, indicate whether these indicators are collected and available in your country? If your country is not included in Annex 2, please add information on data availability in your country in the table.**

6. *Visualisation and communication.* One of the most important aspects of an SDI set is communication of the results to the users (media, general public, policy makers, etc.). A discussion of these aspects will be included in the final report. **Does your country have experiences in the field of visualisation and communication of SDI sets as well as getting the involvement of stakeholders? Does your country consider trends in the SDIs, link them to policy targets or compare SDIs to other countries (EU or OECD-average)?**

**Economic and Social Council**Distr.: General
27 May 2011

English only

Economic Commission for Europe

Conference of European Statisticians

Fifty-ninth plenary session

Geneva, 14-16 June 2011

Item 6c of the provisional agenda

Manuals, guidelines, recommendations, etc. prepared under the auspices of the Conference: measuring sustainable development**Results of the electronic consultation on a Summary of the Report being prepared by the Joint UNECE/Eurostat/OECD Task Force for Measuring Sustainable Development****Note by the secretariat***Summary*

The present note summarises the comments by countries and international organizations on the Summary of the Report currently being prepared by the Joint United Nations Economic Commission for Europe/Eurostat/Organisation for Economic Co-operation and Development Task Force for Measuring Sustainable Development. The comments were collected through two electronic consultations: with the members of the Bureau of the Conference of European Statisticians in February and with members of the Conference of European Statisticians in April 2011.

Forty-one responses were received to the consultations (from 37 countries and 4 international organizations). The respondents expressed support for the work and noted the good progress achieved. The consultation provided many useful ideas and comments to improve the Report being prepared by the Task Force.

The 2011 plenary session of the Conference of European Statisticians will be informed about the outcome of the electronic consultation and the further work of the Task Force. The full report of the Task Force is planned to be submitted to the 2012 plenary session of the Conference.

I. Organization of the consultation

1. The Joint United Nations Economic Commission for Europe (UNECE)/Eurostat/Organisation for Economic Co-operation and Development (OECD) Task Force on Measuring Sustainable Development was set up in 2009. The main task of the group is to further pursue the capital approach developed by a previous Joint UNECE/Eurostat/OECD Working Group on this topic, which resulted in the publication “Measuring Sustainable Development”. The new Task Force follows up on dimensions unresolved in the previous work, including on social and human capital. The Task Force is preparing a Report that is planned to be submitted to the 2012 plenary session of the Conference of European Statisticians (CES).

2. An extended Summary of the Report was consulted with the CES Bureau in January/February 2011. The consultation provided many useful comments. The Bureau encouraged the Task Force to continue the work on the Report, taking into account the other ongoing initiatives related to measuring economic performance, wellbeing and sustainable development undertaken by Eurostat and OECD.

3. The CES Bureau decided to proceed with a large consultation on the Summary with all CES members to collect feedback and to allow countries and organizations to provide input to the work. The Summary was updated by the Chair of the Task Force (the Netherlands).

4. The present note summarises the comments from both the Bureau and the CES electronic consultations. These will be taken into account in any further work. The CES Bureau considered it important to allow countries and organizations to continue to provide comments after the CES 2011 plenary session and to take into account the developments in other international groups working on related issues.

5. Following the Bureau decision, the Summary was sent for electronic consultation to all CES members in March 2011. The members of the Conference were asked to structure their comments along six main questions, covering the general approach undertaken by the Task Force and the overall assessment, the use of conceptual versus thematic categorisation, the country experiences in developing and use of sustainable development indicator (SDI) sets, measurement experiences, data availability and visualisation and communication. The majority of countries and international organizations followed the proposed structure. The questionnaire used for the consultation is presented in document ECE/CES/2011/4/Add 2. The individual countries’ replies are available on the UNECE Statistical Division website.

II. Replies to the consultations

6. **Forty-one responses were received from the following 37 countries and 4 international organizations:** Armenia, Austria, Australia, Azerbaijan, Belarus, Brazil, Bulgaria, Canada, Croatia, Czech Republic, Finland, France, Germany, Hungary, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom, United States, Eurostat, IMF, OECD and UNDP.

III. Comments on the general approach undertaken by the Task Force and the overall assessment of the Summary of the Report

7. The majority of countries support the work in terms of underlying concepts, coverage, and relevance, and note the good progress achieved. The general approach is considered to be going in the right direction: it takes into account the outcomes of recent initiatives, presents new challenges and recognises the importance of quality standards of official statistics. The conceptual split into “now, later, elsewhere” was found useful to assess the “state of the nation”. Most of the countries underline the usefulness of the Report in their process of preparing or reviewing sustainable development indicator sets. **Eurostat** noted that the Summary reflects the very substantial work carried out until now. It takes into account other work such as the Stiglitz report and reviews a large number of datasets from statistical offices and international organisations.

8. The underlying concepts are considered relevant, practical and comprehensive. They give important background information to harmonise the measures and the understanding of sustainable development concept.

9. In terms of coverage, it was noted that the new framework represents a step forward in the area. It adds new causal links between human wellbeing and the influencing factors (human, social, natural and economic capital) through the components of the proposed indicators and their interrelationships. It was suggested to include also a spatial dimension to reflect regional disparities and distribution of resources at a national level and to bring new solutions to areas such as measurement of human and social capital stocks.

10. Most countries support the coverage, including the quality of life aspects and the international dimension of sustainable development. The countries consider it important to develop broader measures of wellbeing and sustainability and integrate the current and future wellbeing. Covering human wellbeing of the current generation makes the indicators more broadly representative of “progress, wellbeing and sustainable development” rather than “sustainable development” alone. Certain advantages are noted by offering a choice between the “future-oriented view” and the “integrated approach”, compared to the approach that is limited only to the future-oriented view. It was emphasized that the two dimensions “here and now” and “later” should be clearly distinguished in the Report. **Eurostat** reckons that only the “integrated approach” allows correct measurement of the broad concept of sustainable development. **Canada** and **Finland**, however, prefer a narrower coverage limited to the capital approach to measuring long-term sustainable development. **Canada** pointed out that including quality of life measures for present generations adds to its complexity and moves the indicators away from measuring sustainable development to simply measuring a suite of indicators of general economic, social and environmental interest.

11. Most of the respondents find the new framework relevant for national level statistics. The majority of the proposed indicators are already compiled by the national statistical offices (NSOs). It is also noted that the proposed set of indicators is relevant for meeting the requirements of statistical data users.

12. The limits of sustainable development concept to official statistics in view of pending measurement problems are pointed out. There are concerns about the methodology for calculating some of the indicators and a number of required assumptions. In several areas, statistical offices can provide technical support and advice to other institutions producing these measures but will not publish them as official statistics. Cooperation with national and international institutions and data providers was highlighted as essential.

Germany, however, mentioned that the indicators considered important for measuring sustainable development are already calculated by NSOs in the frame of official statistics.

13. Several countries consider the work very useful as a means to share experience on developing/revising national SDI sets. The Report was found more appropriate for a statistical office with experience in monitoring sustainable development than for beginners.

14. Some of the more specific comments are presented in summary below:

- The **US Bureau of Economic Analysis** pointed out that establishing a set of indicators that measure all of the multifaceted dimensions of “sustainable development” is a daunting task for any NSO. Considering the lack of theoretical studies in the field, the Report contributes to the improvement in the national sets of sustainable development indicators.
- **Australia, Eurostat** and **UNDP** suggested more careful reflection of the discussion on weak and strong sustainability.
- **Austria** noted that “subjective aspects are in general underrepresented” and that “the aspect of wealth in time and its quality is very important”. **Austria** also asked for quality indicators of the various dimensions of the environment.
- **Romania** underlined the fact that the reflection of the factors which determine human wellbeing helps to improve the statistical standards for compiling indicators. The information on the state and distribution of various types of capital provides a wider view of the heritage left to future generations as far as wellbeing is concerned.
- **United Kingdom** recommends building where possible on international frameworks such as System of National Accounts (SNA) and the System of Integrated Environmental and Economic Accounting (SEEA). It is also important that current 'gaps' are recognised in the Report, not rushing to measure what is easy to measure rather than what needs to be measured, e.g. for ecosystems.
- **Eurostat** noted that the Summary aims at reaching a consensus by allowing an “à la carte choice” for the sensitive issue of the methodological approach (it permits the choice between the “future oriented view”, the “integrated approach” and monetised wealth estimates).
- **Eurostat** considers the proposed framework as more important than developing a list of indicators and recommends further effort in refining the framework and themes. It considers that only specific aspects of sustainable development can be measured in a precise way.
- **United Nations Development Programme (UNDP)** proposed to outline already at the beginning the goal of *development of* a system of indicators for monitoring sustainable development as opposed to the currently available list presenting a mixture of existing indicators, proxies of the non-existing ones and a wish list.
- **UNDP** considers that the distributional aspect of sustainable development is relatively well discussed in the Summary, however, the proposed indicators are dominated by averages, and therefore, neglecting the distributional aspects.
- **OECD** noted that the Report needs to mention explicitly that the ‘capital approach’, used to describe the inter-temporal dimension of sustainable development, is broader than the specific (monetary or physical) measures that are used to make it operational. In other words, the discussion of the advantages

and disadvantages of monetization (e.g. of natural or human capital) does not invalidate the usefulness of the ‘capital approach’ to address inter-temporal issues.

- **OECD** stressed that more attention should be given to the economic aspects of sustainability. The recent crisis highlights that unsustainable patterns of development may not reflect only a shrinking size of the capital (per capita) left to future generations, but also imbalances in the structure and distribution of that capital. The capital approach needs to look beyond economy-wide measures of the (net) capital stock left to future generations, to consider: i) the separate role of prices and quantities, as well as of assets and liabilities, in shaping the ‘net’ position of each country; ii) the distribution of that capital between institutional sectors; iii) the concentrations of risks in specific groups or individuals within these sectors; iv) the possible mismatches in the maturity of various financial instruments, as well as between domestic and foreign financing. Addressing (mentioning) these issues would provide a golden opportunity to underscore the relevance of sustainable development to how economists and statisticians think about crises.
- **OECD** also considers that the main value added of the report will be Section II “Measuring Sustainable Development” and the identification of the measurement approaches and challenges with respect to each of the elements of the conceptual approach presented in Section I “Conceptual Framework”.

IV. Use of the conceptual versus thematic categorization

15. The Summary includes a conceptual and a thematic categorization of Sustainable Development Indicators (SDI). In the conceptual categorization, three dimensions are distinguished: current human wellbeing, future human wellbeing (“capital approach”) and the international dimension. In the thematic approach, sustainable development is split into policy themes (education, health, etc). Countries discussed the advantages and disadvantages of both approaches.

16. Most countries find it useful to link a conceptual approach with a thematic (policy based) approach. This allows making a bridge between producers and users of the indicators, and between sustainable development theorists and practitioners responsible for the monitoring specific themes. The advantages in linking the conceptual and thematic categorisations are seen to be of great relevance for building a sustainable development policy. A combination of both approaches are recommended: first, a conceptual approach, based on an indicator typology, to define the process of sustainable development in the main policy fields; second, a thematic approach that facilitates the communication with the politicians and the general population. Since both systems are linked, mixing the conceptual strictness with the practical flexibility can only bring benefits.

17. The conceptual framework is considered more comprehensive than other approaches to the measurement of sustainable development. The conceptual approach is regarded as a theoretical background for understanding the broad sustainability concept of capital and its dimensions. Although it was said that trade-offs of human wellbeing between current and future generations can not be very clearly tracked, a policy concept would enable the main problematic areas to be detected. The possibility to add sub-indicators that will support the headline indicators and explain the factors that influence the headline indicators is appreciated. Several countries highlight the usefulness of the conceptual approach for the international dimension and detecting the trade-offs between wellbeing in high-income and

developing countries. The conceptual approach is also supported as useful in linking sustainable development to the economic information derived by the SNA.

18. The thematic approach is considered in general to be more practical, easier to implement, and helpful for elaboration of various policies. The draft set of sustainable development themes and potential indicators covers a wide range of indicators and needs to be further focused in order to provide a coherent story about sustainable development. The thematic approach is said to be valuable in providing policy makers with the means to know what actions they can take and how they can influence certain policies with the help of the information from the sub-indicators. The importance to analyse the links between the themes is highlighted. Their interactions can provide a better understanding of how underlying trends in society can contribute to a more sustainable path. The information on capital may be not easy to interpret and be used as a basis for crucial decisions that need to be taken today, e.g. on investments in education, health and energy systems.

19. A strong convergence between themes and concepts is noted: both cover a set of indicators and include logical relations between sub-domains. The integration, however, of both current and future wellbeing is stressed as being the most important. It shows the key trade-offs that are important in the Brundtland definition.

20. It is considered useful to present options in the report allowing flexibility in their application reflecting the different policies and country priorities.

21. Several replies touch upon the use of composite indicators and a related concern that often the methodology used to construct composite indicators does not meet the quality standards of official statistics.

V. Experiences with developing and use of sustainable development indicator sets

22. Most countries have a system of SDI, some are currently developing or plan to develop a national set of SDI, and only a few responded that they do not have a SDI set. The SDIs of European Union (EU) member countries are often based on (or identical to) the EU SDI set. Some countries have produced indicators on sustainable development but do not maintain an official and comprehensive SDI set. The **United States** and **Canada** produce a wide range of statistics on sustainability, although they do not have an official set of SDI indicators.

23. Several themes applied in certain countries were suggested as additional themes to the ones covered by the Summary. These include regional disparities, culture, natural hazards, nuclear safety, transport, financial flows towards less developed countries, sustainable production and consumption patterns, social inclusion, demography, migration, education and vocational training, availability of public cultural services, share of built-up area, environmental expenditures, use of fertilizers, use of pesticides, share of organic farming, logging intensity, etc. **Austria, Bulgaria, Czech Republic, Hungary, France, Latvia** and **Portugal** provided more detailed lists of indicators that could be added to the Summary. A possibility to bundle some themes into a larger policy domains such as energy or climate is proposed (e.g. oceans and costal areas could be classified into ecosystems).

24. The countries' experiences in respect to optimal number of indicators vary. Most countries consider it difficult to specify the "optimal" number. Extracts of SDI sets should be made from a wider and comprehensive list to be communicated in pocket books, reports, and other publications. As an alternative, visualisation techniques are proposed to be used to summarise the information from the indicators instead of reducing the number of indicators. For monitoring purposes, it is proposed to assign for policy targets as many SDI

indicators as possible in order to make the SDI set relevant for policy makers and society in general.

25. Most countries indicate no special experience in maintaining a “small” set of indicators. Some note that a “small” set of indicators (for example 10-12 indicators) could be important for communication purposes. **Spain**, however, made a warning with regard to the use of sophisticated mechanisms for integration of indicators. Transparency and clarity are noted as essential for users. **Brazil** indicated its awareness of some academic experiences using mathematical techniques to make successive reductions of data without losing information on the original indicators.

VI. Measurement experiences

A. Current wellbeing

26. Several countries have experience in measuring current wellbeing and quality of life. **Brazil**, **Croatia** and **The former Yugoslav Republic of Macedonia** indicate that they produce wellbeing or social indicators based on available data sets. **Turkey** produces numerous indicators to measure wellbeing in the area of poverty, health, education, employment, income and wealth, shelter, natural environment, political participation, civil society, economic participation, human rights, national stability and sustainability, family wellbeing, and personal wellbeing. **Lithuania** points out indicators on life expectancy, educational attainment, groundwater quality, protection of biodiversity, etc. **Kazakhstan** conducts a sample household survey to assess quality of life, including income and consumption patterns, with the purpose to identify the level of welfare and to study the causes and conditions of poverty (subjective assessment). **Armenia** considers individual components of quality of life as part of its household surveys on living conditions, demographic and health surveys.

27. Only a few countries are measuring wellbeing in a more systematic way. **Australia** has a broad ranging social statistics program which measures social wellbeing of population, family and community, health, education and training, work, economic resources, housing, crime and justice, and culture and leisure. Most of the measures are objective, however, in recent years, **Australia** has produced an increasing range of subjective measures, including self-assessed health, life satisfaction, feeling rushed or pressed for time, and feelings of safety. The **Netherlands** has a program to measure subjective wellbeing which started in 2010. **Sweden** notes a long tradition in measuring human wellbeing since the 1970's.

28. Several countries have plans or work in progress on measuring human wellbeing and quality of life. The **US Bureau of Economic Analysis** is exploring alternative measures of growth, income, income distribution, household and non-market production, health care output and spending, and sustainability. **Switzerland** is also currently working on supplementing the Gross Domestic Product (GDP) with wellbeing indicators. **France** is preparing a pilot survey to test questions on both objective and subjective quality of life. Wellbeing measures are included as a target in the political programme of the present Government of **Finland**. The **Netherlands** started a programme for measuring subjective wellbeing in 2010. In June 2010, **Austria** made a study on how to monitor wellbeing of Austria's population financed by Eurostat. **Austrian** subjective indicators were evaluated recently and enhanced by a survey on wealth in time. **Luxembourg** has proposed about hundred wellbeing indicators under a project “GDP of wellbeing”. **Poland** is currently working on identifying possibilities to measure wellbeing within the frame of “Beyond GDP” and to improve the scope of its living conditions surveys. A few countries (**Ireland**,

Finland, Romania) point out that their methodology is still under development or in a research stage.

29. References are made to various surveys, including SILC, the European Quality of Life Survey, household budget surveys, time use surveys, NGOs surveys on social needs, living conditions surveys, etc.

B. Capital

30. The extent to which natural capital is measured varies significantly between countries. **Australia** produces a range of data which contribute to the understanding of natural capital, including natural assets such as land, timber and subsoil assets. **Australian's** enviro-economic accounts include information on water, energy and land. **Canada** has been measuring physical stocks of energy, minerals, timber, land and water since the 1990s. The **Netherlands** has an extensive programme of environmental accounts and statistics and produces many of the SEEA accounts on a regular basis. **Mexico** is monitoring some aspects of natural capital by means of the Economic and Ecological Account System. **The former Yugoslav Republic of Macedonia** has some experience on measuring natural capital concerning water, soil and air quality, and their interdependence with the climate changes but they rely on irregular project surveys. **Latvia** plans to calculate natural capital in the long run.

31. **Australia, Canada, the Netherlands and Italy** describe their practices in measuring human capital. **Australia** has undertaken a range of work in measuring human capital over a number of years. **Canada** participates in research on the measurement of human capital but has not produced official statistics in this domain. The **Netherlands** and **Norway** have started a program, to measure human capital according to the J-F framework (lifetime income approach). **Italy** has recently set up an overall strategy for the measurement of human capital. It is internationally harmonized and includes both measuring capital stocks of human capital and advancing towards the construction of a satellite account for human capital. Stocks are measured according to the life-time labour income approach (J-F) limited to the working population (15-64 years), with breakdowns by sex, level of education (3 or 4 levels), employees/self-employed and economic activity. Only SNA economic activities are taken into account at this stage.

32. Very few countries mention any experience in measuring social capital. **Austria, Australia, and Sweden** have done some studies on capital stocks, and in particular on social capital. **Ireland** has done a small module on social capital as part of its Labour Force Survey in 2006. **France** measures social capital based on information from the European Union Statistics on Income and Living Conditions (EU-SILC) survey, for example on participation in public life and contact with the others. Participation in public life is measured according to three aspects: political commitment (including participation in the electoral process), professional commitment, and participation in groups or organisations (holding a position of responsibility in an association, including voluntary work). **Italy** has begun a research project for an Atlas of Social Capital and Institutions, with the aim of observing the presence/absence of institutions, how this presence is or is not supported by social networks, social and civic participation and their relation with socio-economic development by territorial breakdown. The **Netherlands** has written a number of reports on social capital from macro-economic perspective. **Latvia** shares its experience on calculating a Social Capital Index, mainly in the research field. **Italy** and **Turkey** are using definitions in conformity with the OECD definition of social capital.

33. **Azerbaijan, Belarus, Brazil, Bulgaria, Germany, Kazakhstan, Luxembourg, Portugal, Romania, Sweden, and Switzerland** indicate explicitly that they do not have experience in measuring natural, human or social capital stocks.

34. In general, there is a high awareness of the limits with regard to the issue of monetization. The **Netherlands** monetises the SNA assets, intangible capital, research and development (R&D) and is exploring the (monetary) human capital accounts. As far as natural capital is concerned, only sub-soil assets are monetized. **Austria** has no plans for monetisation of natural and social capital. Although monetisation requires assumptions about the future (especially prices), **Canada** considers it useful to determine approximate values and to assess trade-offs. **France** also supports the establishment of reference values for different non-marketed goods in certain cases, especially in the environment domain. On the contrary, in many cases, **Spain** prefers to restrict to physical measures instead of using methodologically weak monetisation techniques. **Germany** has explored possibilities for monetisation of natural capital but so far did not find any convincing approaches. **Australia** would support monetisation where market values are available or where good proxies can be readily obtained through analytical techniques, but would be more wary of valuation techniques that are not based in some way on prices that are revealed in a market. Given the benefits of comparability that monetisation brings, **Australia** considers it worth pursuing by official statisticians, even if some estimates may need to be labelled experimental because the estimation techniques are not fully established or because alternative methods are available and there is no single agreed upon method. **Norway** notes that methods of monetisation could be improved, and more stocks such as the global climate and biodiversity should be included.

C. International dimension

35. The inclusion of the international dimension of sustainable development in the Report is received positively and further work in this area is encouraged. **Eurostat** considers the international dimension crucial. **Finland** asks for more clarity about the international dimension and alerted that the issue of distribution on a global scale has a political aspect, and therefore, difficult to describe.

36. Several countries note experience in this area, including the calculation of “ecological footprint”. **Finnish** Ministry of Environment has actively taken part in development of the “ecological footprint” calculations. **Luxembourg** has begun calculating the “ecological footprint” as part of a project carried out by a Research Centre. **Luxembourg** considers the “ecological footprint” an excellent communication tool, which however is not applicable when evaluating policies in one or other economic sectors. **Sweden** measures emissions for the Swedish consumption as part of the work on the environment accounts. The **Latvian** Sustainable Development Strategy 2030 has included the “ecological footprint” as a strategic indicator to monitor sustainable development. **Norway** considers the “ecological footprint” as being a problematic measure since it does not take properly into account the specialisation in production induced by the international trade. The **Netherlands** measures greenhouse gas emissions from both production and consumption perspectives. **France** takes into account the international dimension in its sustainable development scoreboard with a headline indicator of direct income transfers (official development aid) from France to the developing world. Furthermore, **France** estimates certain environmental relationships, e.g. the carbon footprint both from a territory and a final demand perspective. **France** and **Germany** are currently working on estimating a water footprint. **Germany** points out the need for an internationally agreed method to calculate the carbon footprint.

37. **Austria** has developed a footprint calculator, which is used only for communication purposes. Two on-line calculators on the webpage of World Wildlife Fund in **Latvia** allow calculating the personal “ecological footprint”.

38. The **Netherlands** estimates trade balance on a bilateral trade basis. **Sweden** considers the trade balances difficult to interpret and makes a proposal to use the environmental pressure connected to consumption on a per capita basis.

39. **Australia** expresses concerns with ecological footprints as statistical measures and has no plans to produce such measures.

VII. Data availability

40. Most countries indicate that they produce the indicators listed in Tables A1 and A2 in Annex 2 of the Summary (Document 4/Add 1).

41. Some countries note additional indicators that are not included in Annex 2. **Bulgaria** produces additional indicators on fresh water resources, waste water disposal, surface and groundwater extraction, and the extraction of metal and non-metals ores. **Mexico** has indicators on biodiversity, resource reserves, water quality, and freshwater resources. **Australia** lists supplementary indicators on housing affordability, victims of burglary (households) and assault (persons), obesity, educational attainment of young people, contact with family and friends, fossil fuel reserves, biodiversity and fresh water resources, early school leavers, PISA and PIAAC scores, etc. Additionally, **Portugal** notes the existing information on the indicators “Time spent on recreation (hours)” and “Time spent with friends, family, volunteering (hours)” (TUS of 1999). **Poland** has also done work on measuring volunteering.

42. **Italy** notes that for each chosen indicator, its meaning in terms of sustainability and goals to be reached (if any) has to be clearly stated and suggests defining a single direction for all indicators, also from a conceptual point of view, so that a positive or an increasing value for a given indicator would indicate an improvement in terms of sustainability.

VIII. Visualisation and communication

43. Not many countries indicate experience in visualisation and communication of SDI sets. **Mexico** has several systems for visualisation and communication of environmental, socio-demographic and economic indicators. **Romania** regularly works on new tools for visualisation of SDIs. Maps developed by Eurostat in relation to the SDI work were given as a good example of visualisation. **The Netherlands** is planning to introduce a web-visualisation tool in 2011.

44. Most countries consider trends in the SDIs, link them to policy targets and compare SDIs to other countries. **Hungary** makes comparisons with other EU and neighbourhood countries. **Switzerland** makes assessments of trends in indicators and illustrates the results with a traffic-light symbol. In the **Latvian** Sustainable Development Strategy 2030, 7 strategic themes are described by a list of 4 -10 indicators per theme, thus in general the indicators are linked to policy targets. The values of the indicators are compared to the EU-27 average. **Ireland** is developing and disseminating competitiveness indicators (Measuring Ireland’s Progress).

45. **Finland** has produced a publication on SDI communication “SDI: Much wanted less used”. Although data on sustainable development are not always published, most of the countries make references to various publications on sustainable development aspects.

IX. Conclusion

46. The results of the consultation were reviewed in-depth during the meeting of the Task Force on 19-20 May 2011. The Task Force appreciated the many useful comments received and will take them into account in finalising the Report.
