

# Frameworks to Measure Sustainable Development

SUSTAINABLE DEVELOPMENT



OECD



OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16

PRINTED IN FRANCE

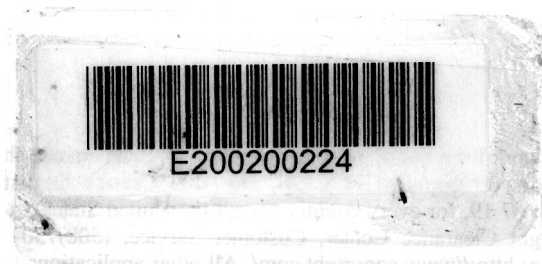
(03 2000 01 1 P) ISBN 92-64-17191-6 – No. 51083 2000

F061.3-53  
F813  
1999

OECD PROCEEDINGS

# FRAMEWORKS TO MEASURE SUSTAINABLE DEVELOPMENT

*An OECD Expert Workshop*



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

## ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The original Member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became Members subsequently through accession at the dates indicated hereafter: Japan (28th April 1964), Finland (28th January 1969), Australia (7th June 1971), New Zealand (29th May 1973), Mexico (18th May 1994), the Czech Republic (21st December 1995), Hungary (7th May 1996), Poland (22nd November 1996) and Korea (12th December 1996). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

### **OECD Initiative on Sustainable Development**

This book is part of the OECD three-year initiative on Sustainable Development, launched in April 1998 in response to the mandate from OECD Ministers. Other books will be published in the context of this initiative. A major report to be released in 2001 will provide a basis for discussion at the meeting of the OECD Ministerial Council.

© OECD 2000

Permission to reproduce a portion of this work for non-commercial purposes or classroom use should be obtained through the Centre français d'exploitation du droit de copie (CFC), 20, rue des Grands-Augustins, 75006 Paris, France, Tel. (33-1) 44 07 47 70, Fax (33-1) 46 34 67 19, for every country except the United States. In the United States permission should be obtained through the Copyright Clearance Center, Customer Service, (508)750-8400, 222 Rosewood Drive, Danvers, MA 01923 USA, or CCC Online: <http://www.copyright.com/>. All other applications for permission to reproduce, or translate all or part of this book should be made to OECD Publications, 2, rue André-Pascal, 75775 Paris Cedex 16, France.

## FOREWORD

The Communiqué of the April 1998 OECD Ministerial Council Meeting states that: “Ministers agreed that the achievement of sustainable development is a key priority for OECD countries. They encouraged the elaboration of the Organisation’s strategy for wide-ranging efforts over the next three years in the areas of climate change, technological development, sustainability indicators and the environmental impact of subsidies...”. Further, “Ministers asked the OECD to enhance its dialogue with non-member countries in these areas and to engage them more actively, including through shared analyses and development of strategies for implementing sustainable development”.

The work programme put in place to follow up on this Ministerial mandate, and the way the work is organised is set forth in “OECD Work Programme on Sustainable Development. A discussion Paper on Work to be Undertaken over the period 1998-2001”, [PAC/AFF(98)02]. A report describing progress in the OECD work programme was released in May 1999 [“The Three-Year Project on Sustainable Development: A Progress Report”]. Both are available on the OECD Internet site [<http://www.oecd.org/subject/sustdev>].

An important component of this work programme concerns the measurement of progress towards sustainable development. In October 1998, a first workshop on measurement in Paris was designed to explore ideas and compare notes from various experts and organisations active in the field. The proceedings of this workshop can be found on the Internet site mentioned above.

This book presents proceedings of a second expert workshop held in Paris, 2-3 September 1999. The workshop built on the outputs from the first workshop and subsequent work both within and outside the OECD. The primary objectives were to review the state of progress on developing frameworks and indicators and the policy questions that can be answered using the different approaches to measuring sustainable development.

This compendium was provided as a background report at the OECD Conference "Towards Sustainable Development -- Indicators to Measure Progress" hosted by the Italian authorities in Rome on 15 - 17 December 1999. It will also provide material for the “Analytic Report” on Sustainable Development which will serve as a basis for discussion at the OECD Ministerial Meeting in 2001.

This book is published on the responsibility of the Secretary-General of the OECD.

Thorvald Moe  
Deputy Secretary-General



## TABLE OF CONTENTS

FOREWORD.....	3
REPORT OF THE SEPTEMBER 1999 OECD EXPERT WORKSHOP ON THE MEASUREMENT OF SUSTAINABLE DEVELOPMENT <i>Carl Obst</i> .....	7
A FRAMEWORK FOR MEASURING SUSTAINABLE DEVELOPMENT <i>Anne Harrison</i> .....	19
A FRAMEWORK TO MEASURE THE INTERACTION BETWEEN THE ECONOMY AND THE ENVIRONMENT <i>Alessandra Alfieri</i> .....	29
MEASURING THE WEALTH OF NATIONS <i>Kirk Hamilton and John A. Dixon</i> .....	39
SOCIAL CAPITAL, HUMAN CAPITAL AND SUSTAINABLE DEVELOPMENT <i>Tom Schuller</i> .....	51
GENUINE SAVING AS A SUSTAINABILITY INDICATOR <i>Kirk Hamilton</i> .....	65
THE POLICY RELEVANCE AND USES OF AGGREGATE INDICATORS: GENUINE SAVINGS <i>David Pearce</i> .....	79
MEASURING SUSTAINABLE DEVELOPMENT: THE CASE FOR A SYSTEMATIC PHYSICAL FRAMEWORK <i>Allen L. Hammond and Emily Matthews</i> .....	83
TECHNOLOGY AND SUSTAINABLE DEVELOPMENT <i>Giles Atkinson</i> .....	97
HEADLINE INDICATORS OF SUSTAINABLE DEVELOPMENT IN THE UNITED KINGDOM <i>Hillary Hillier</i> .....	105
MEASURING DEVELOPMENT PROGRESS: A WORKING SET OF CORE INDICATORS <i>Brian Hammond</i> .....	117
OECD AGRI-ENVIRONMENTAL INDICATORS <i>Kevin Parris</i> .....	125
IEA ENERGY/EMISSION INDICATORS <i>Fridtjof Unander and Lee Schipper</i> .....	137
TERRITORIAL INDICATORS FOR SUSTAINABLE DEVELOPMENT WHY? AND HOW? <i>Heino Von Meyer</i> .....	150
LIST OF PARTICIPANTS .....	159





# **REPORT OF THE SEPTEMBER 1999 OECD EXPERT WORKSHOP ON THE MEASUREMENT OF SUSTAINABLE DEVELOPMENT**

*Carl Obst*

Statistics Directorate, OECD

## **Introduction**

The measurement of sustainable development requires drawing together indicators from the three dimensions of sustainable development, the economy, the environment and society. The two primary aims are to form a coherent picture of sustainable development trends and to provide information that is relevant to policy questions. In defining a set of indicators to cover sustainable development, a necessary task is the development of frameworks to place indicators in context and within which the relationships between different policy goals, the links between indicators and goals and the interaction between different indicators are apparent. Thus, the measurement of sustainable development requires advances in both the theory of measurement and the practical construction of sustainable development indicators. Neither can easily be separated. Importantly, construction of both frameworks and sets of indicators must lead to indicators whose quality is defensible on both conceptual and practical grounds and whose information content, and thus potential use on policy grounds, justifies the development.

The Second OECD Expert Workshop on Sustainable Development Indicators (Paris, September 1999) built on the outputs from a first OECD Expert Workshop (Paris, October 1998) and subsequent work both within and outside the OECD. The primary objectives were to review the state of progress on developing frameworks and indicators and to examine the policy questions that can be answered by the different approaches to measuring sustainable development.

This report has four sections. First, a brief discussion of some definitional issues raised during the workshop. Second, a review of different types of frameworks presented at the workshop. Third, a discussion of some of the key issues involved in developing limited sets of indicators. Finally, a summary of some major themes from the meeting in relation to the OECD work programme.

## **Definitions of sustainable development**

While the workshop did not dwell on defining sustainable development, participants to the workshop confirmed a common understanding of sustainable development as referring to a broad set of issues, going beyond the relationship between the economy and the environment to encompass human and social concerns. Although difficult, such extension was generally regarded as necessary. Measuring sustainable development hence requires efforts to represent the totality of stocks and flows, as well as their relationships.

No single indicator, framework or set of indicators currently covers the full range of issues that are included in this broad agenda. These limits of our measurement tools affect our ability to accurately assess trade-offs between alternative policy choices. In particular, we need to better identify criteria and thresholds for the various indicators that are relevant to assess sustainable development, as well as the risks involved in exceeding these thresholds. Indicators must be seen as tools for the development of appropriate policy responses to sustainable development questions.

A recurring theme at the workshop was the distinction between indicators “of” sustainable development and indicators “towards” or “for” sustainable development. Indicators “of” sustainable development will reflect some underlying theory identifying conditions for sustainable development. Indicators “for” sustainable development are economic, social or environmental indicators (e.g. unemployment, crime rates, CO2 emissions) that cover a smaller part of the picture and need linking to other indicators in order to show whether the present development path is sustainable. For policy use, some combination of the two approaches is needed.

## **Frameworks**

### ***Background***

The breadth of sustainable development has meant that a number of different frameworks have been developed each with its own advantages and limitations. Frameworks are required:

- To place different indicators in context and to organise available information;
- To assess trade-offs between different dimensions of sustainable development;
- To help set priorities across different policy areas; and
- To develop summary or aggregated indicators.

The following frameworks were presented at the workshop.

### ***National accounts***

This framework uses as its base the traditional framework used for economic measurement, the national accounts. In its application to sustainable development, this framework is extended as follows:

- The concept of production is extended to the use of environmental resources and the deployment of all labour, whether paid or not;
- The definition of asset is enlarged to include environmental assets and human and social capital.

Measures of consumption are contrasted with a measure of income modified to ensure that, while remaining consistent with the new concept of production, provision is made for the maintenance of an adequate level of capital for future generations.

The key strength of the system of national accounts is its ability to combine breadth of coverage of different issues within a single logical structure thus ensuring internal consistency.

The workshop presentation focused on the range of links that can be made between economic environmental and social policy issues within this framework. The framework can be envisaged as a set of

linked tables in which alternative policy concerns can be examined and trade-offs analysed. Of particular importance is the ability to analyse issues over time and consider future development patterns. Examples of the issues that are considered in the framework include:

- Links between economic production, employment and demographic trends;
- Links between economic production and environmental depletion and degradation;
- The role of government as regulator and as provider of services such as health and education;
- The impact of health and education on human capital and employment;
- The impact of environmental use on health;
- Household income distribution and consumption; and
- International trade and financing relationships.

In developing and extending the national accounts framework each separate area becomes a relevant field of investigation in its own right (for example, data on income distribution). But the key strength of a framework is that such information can be directly linked to other issues (for example, consumption, production, and investment). Importantly, while the national accounts framework usually aggregates and compares data in monetary terms it is possible, and often necessary, to link to physical indicators (for example, numbers of unemployed) to illuminate the question under consideration. Finally, national accounts allow a decomposition of key aggregates to a micro and sub-national level.

Discussion at the workshop also noted the following benefits of national accounts as the basis for a framework for measuring sustainable development:

- It has a long established theoretical structure which has direct links to sustainability;
- Monetary valuation allows comparison of different dimensions of sustainable development and an assessment of their relative importance;
- Its credibility and acceptance make it easier to present sustainable development issues to finance and economics departments in national governments;
- It has well-established links to an existing statistical infrastructure embodying international standards, systems and classifications;
- Its emphasis on internal consistency facilitates the study of policy trade-offs; and
- Its basic structure, and its broad acceptance, limits the need to make normative judgements.

However, limitations of the framework include:

- Theoretical accounting difficulties, particularly in the treatment of environmental assets and of human and social capital.
- Practical difficulties in valuing assets and flows which have few relevant markets. More generally, the data needed to estimate environmental and social issues may not exist or be in a useful form.
- The economic perspective on which the national accounts framework builds cannot provide insight into all aspects of sustainable development.

Despite these limitations the national accounts framework represents the broadest, integrated framework for the assessment of sustainable development and its use was strongly endorsed at the workshop.

## ***System of integrated Environmental and Economic Accounting (SEEA)***

The System of integrated Environmental and Economic Accounting (SEEA) is a partial implementation of the enlarged national accounts system described above, concentrating on the links between the economy and the environment. Its four main objectives are:

- The identification and elaboration of all environment-related flows and stocks (e.g. environmental protection expenditures, environmental taxes and subsidies, natural resources accounts, etc.);
- Extension of the asset boundary to include environmental assets, to obtain a more comprehensive measure of national wealth;
- Linkage of physical and monetary accounts; and
- Derivation of environmentally-adjusted indicators.

The SEEA is a flexible framework with a modular approach. This allows for the elaboration of selected modules according to countries' environmental concerns and priorities. In practice, because of little experience and unresolved issues for valuation, in particular, of environmental services, the modules that have been applied on country case studies include the compilation of:

- Environmental protection expenditure – which, when linked to emissions, can be used to examine the eco-efficiencies of the industries and the effectiveness of environmental policies over time.
- Asset accounts (physical and monetary) for economic and environmental assets – which are relevant for a more comprehensive measure of national wealth to include natural capital, its depletion and natural resource management.
- Emissions accounts (physical and monetary) – which can be used to assess the impacts of industries and households on the quality of the environment, and to provide estimates of the costs that should be internalised by polluters.

The SEEA provides a framework for organising economic and environmental information in support to designing integrated policies. It expands and complements the 1993 System of National Accounts by including environmental information according to conventional accounting concepts, definitions and classifications.

## ***Measures of wealth***

Measuring wealth is closely linked to measuring sustainable development, as sustainable development requires the preservation of wealth for future generations. Wealth measures allow the trade-offs between different types of wealth to be considered. While total wealth includes a range of non-economic assets, monetary valuation seems the only approach for aggregating different forms of wealth.

The World Bank has estimated values for a broad range of assets. This work has provided useful insights, in particular by stressing the importance of the composition of wealth and not just its level for development policy (a portfolio management approach to development policy) and by highlighting the implications of higher economic growth for the structure of the asset portfolio.

While the World Bank work helps to focus on a broader definition of wealth the following problems were observed:

- There are difficulties in applying a common methodology and assumptions to many countries (in excess of 100);
- The estimation of institutional and social capital requires refinement as, in the World Bank approach, 'human resources' (including both human and social capital) are measured as a residual. Separate measures of human and social capital are required;
- There is no place for non-national specific environmental assets such as coral reefs, sea-bed mineral deposits and fish stocks. These assets are important to sustainable development but cannot be attributed to specific countries;
- Distributional issues, which are likely to impact directly on sustainable development, are not considered.

Overall, despite problems of measurement and scope, the application of a wealth-based approach to sustainable development issues seems especially appropriate.

### *Social capital*

Social capital is one component of wealth. It represents the role of institutions and social relationships, of communication and co-ordination and the more non-specific role of good governance within which all development takes place. These issues are critical from a sustainable development perspective. However, there are significant problems in conceptualising and measuring social capital that has limited its discussion at a broad policy level. The presentation of some simple regressions in the workshop, as well as more substantial studies by Jorgenson and Barro, all point to a significant economic impact of these factors. Comments in the workshop also pointed to its strong correlation with problems and levels of conflict in developing countries. Consideration of how to include social capital, as an integral rather than a background phenomenon, seems worthwhile.

However, the causation between social capital and economic activity is not clear. Investment in communication and co-ordination can be actively encouraged and these aspects of social capital may be seen as important inputs into sustainable development. Alternatively, increased participation and social cohesion may be seen as outputs or goals of sustainable development. In the absence of more precise definitions, monetary valuation of social capital requires significant normative judgements.

From a practical indicators perspective, while it is possible to envisage a range of participatory indicators such as numbers of people involved in voluntary organisations, it is less easy to establish links between such indicators and sustainable development. A focus on investment in formal education and training for the development of social capital may be useful but will miss the significant effects of informal education. A suggested approach is to examine the size of the voluntary sector in terms of monetary donations and contributions but again this can be considered only a partial measure. Efforts by the World Bank/OECD/UN to extend their core set of indicators to indicators of governance may help increase recognition of the issues involved. While actual measurement seems difficult, it was observed that trying to place monetary values on social capital through estimation may be detrimental to establishing its appropriate role. The discussion at the workshop clearly indicates a need for further investigation into the measurement of social capital and definition of its role in sustainable development.

### *Summary measures: Genuine saving*

Saving, the difference between income and consumption, is closely linked to notions of sustainability. However, saving as usually measured does not account for the costs of environmental

depletion and degradation or for investment in human capital. "Genuine saving" attempts to broaden the conventional measure of saving to account for these factors, within the framework of the Hicksian theory of income. The genuine saving measure defined by the World Bank deducts from Gross National Product (GNP) consumption (deriving *Gross saving*), depreciation on produced assets (deriving *Net saving*), net depletion of living and mineral resources as well as degradation caused by pollution; and adds expenditure on education as a measure of investment in human capital (deriving *Genuine saving*).

Since saving is a balancing item between income and consumption it can be either positive or negative. A negative value of saving indicates that some proportion of consumption is being funded by a run-down of capital. Such a situation is not sustainable over a long period. If saving is positive there is no run-down of capital but there is no indication about whether the mix of assets is suitable for sustainable development. The attraction of the genuine saving measure is the incorporation of different aspects of sustainable development into an overall measure which should be positive to indicate sustainability. However, a single measure does not identify particular problems or determine solutions. Decomposition of the measure, in the same way in which GDP would be decomposed by an economic analyst, is required to identify key areas and possible solutions.

The World Bank has provided estimates and analysis of genuine saving for a large number of countries. Measures of genuine savings and its components provide insights into potential areas where development policy should focus, especially when analysed over time. While all OECD countries show positive values of genuine saving in 1997, some of them have experienced very low levels in some periods. Overall there are four key practical benefits of the genuine saving approach:

- It is a more informative measure than saving as normally measured since the measure of income to which it relates is defined more broadly;
- It highlights a need to consider a range of assets and their relative significance (portfolio management);
- It draws attention to the importance of managing natural resources responsibly; and
- It raises the issue of resource rents, with implications for the budgetary process, taxes and subsidies.

However, there are difficulties in the measurement of genuine saving:

- As with all measures requiring valuation, there are significant problems in estimating the value of environmental assets, human capital and the cost of their use.
- Some asymmetries remain relating to education, increases in natural resources (mineral discoveries) and the treatment of CO<sub>2</sub> emissions. For example, investment in education is included but depreciation of this capital is not.<sup>1</sup>
- It is unclear as to how the measure deals with the source of the saving, i.e. whether it is domestic saving or from the rest of the world. If a significant proportion of domestic investment is funded from external sources, questions of financial sustainability may arise.

Despite these difficulties, the genuine saving framework does allow analysis of linkages between sustainable development issues and summarises concisely a broad range of relevant information.

---

1. It was stated that for education, while an asymmetry exists, to the extent that education can be considered as disembodied, i.e. not linked to individuals, the continual turnover in population need not be seen as pure depreciation in human capital since some information will be retained within society as a whole.

## ***Material flows***

Monetary valuation is especially difficult for assets and flows that are not exchanged through markets. Monetary valuation may also hide important information on physical units. One approach focusing on physical data is that of “material flows”. In this approach, physical inputs and outputs are measured in tons and aggregated to derive measures of the total physical throughput in the economy. Material flows consider all flows in the economy and not just final demand as is the case for GDP.

Material flows are especially informative when examining the intensity of use of individual materials, such as lead or nitrogen-based fertilisers. Based on this detailed information, links to environmental pressures can be made. Material flows are also helpful in assessing whether economies are “dematerialising” or whether processing of these material inputs is simply shifted abroad (with one country leaving ecological “footprints” on others).

One disadvantage of the approach is in terms of aggregation. Adding tons of lead and tons of coal does not make for a meaningful overall measure. Suggestions for aggregating different materials on the basis of ‘biological risk units’ raise a range of practical difficulties. A further limit of the material flows approach is that it neglects the role of the price system and of possible market failures in increasing the use of different materials. On the positive side, the approach may be useful in analysing trade flows in various materials. Also, as material flows are likely to be recorded early in the economic chain, they may serve as leading indicators of environmental pressures. Overall, the nature of material flows suggests that it could link well into the overall structure of the national accounts and help in providing a broader picture of sustainable development issues.

## ***The role of technology***

There is substantial evidence suggesting that technological progress is a key determinant of economic growth. At the same time, by increasing the productivity of existing assets, technological progress may also be regarded as one key factor for achieving sustainability. According to Weitzman, the size of the benefit premium to future generations stemming from technological progress may be very significant (possibly around 40% of GDP), and likely to dwarf any compensation for the decline in environmental assets.

However, there are a number of caveats. First, there are uncertainties surrounding these estimates of the technology premium. Second, the possible ‘endogeneity’ of technological change would imply that the resources used to develop technology are already recorded in national accounts aggregates. This ‘endogeneity’ would reduce the size of the premium but also suggest that some flows, such as expenditure on research and development, should be treated as investment rather than consumption.

Even if the size of the technological premium is not as large as suggested above, consideration of technology is important for the understanding and modelling of sustainable development. More generally, the discussion of the role of technology for sustainable development points to the importance of focusing on the concept of eco-efficiency and the role of cleaner technologies. Given the importance of technological change in achieving sustainable development, better indicators are urgently needed. Relevant indicators include measures of productivity and expenditure on research and development. Suitable incorporation of these indicators within sustainable development measurement frameworks will enable a more complete and policy relevant picture to be formed.

## Outcome and sectoral indicators

### Background

Information on developments in economic, environmental and social areas may be provided through sets of indicators combining information from the different dimensions. At the sectoral level, significant efforts have been directed to the construction of sets of indicators for agriculture, energy and transport. A range of national and sectoral experiences were presented at the workshop.

### Aims of indicator sets

Efforts to construct set of indicators start from the recognition that no single indicator is likely to encapsulate all of the information relevant for sustainable development policy. Sets of indicators may be more informative of trends in selected issues within the broad sustainable development agenda and help to increase the visibility of environmental and social indicators relative to economic indicators (such as government debt, inflation and unemployment) that have tended to dominate much policy discussions.

Several experiences with the use of sets of indicators were discussed at the workshop. At the national level, the UK set of indicators aims to:

- Provide a comprehensive assessment of sustainable development;
- Educating and informing the public on issues relating to sustainable development;
- Encouraging businesses and households to use indicators as a checklist for their behaviour.

At the international level, the UN/World Bank/OECD indicator set which emerged from the policy initiative *Shaping the 21<sup>st</sup> Century* focuses on a few development targets from the many agreed at the various UN conferences in the 1990s. The aim is to raise public awareness in donor countries and to focus national efforts on a few, key long-term goals that, if realised, would contribute to "a sustainable future for this planet". The aim of the indicator set is both to measure progress towards international development goals for 2015 and to raise awareness of the importance of building up statistical capacity to set and monitor national development objectives.

Sectoral indicator sets have more narrow aims and are usually targeted at specific policy questions. One example is the OECD indicator set for agriculture. Agriculture has long been seen as a critical sector in sustainable development policy due to the importance of subsidies that have had a significant impact on government budgets and impact heavily on the environment and on natural assets such as land and water. The focus on a single sector allows the development of a targeted indicator set which considers specific policy aims and questions.

### Selection of indicators

The development of indicator sets is not straightforward. Some of the basic issues faced in their construction include:

- The indicators must have a purpose and careful selection with policy use in mind is critical.
- It is necessary to consider how the indicators are to be used, e.g. to describe states or changes, as policy targets or to help define strategies.



- They should respond to the aim of increasing transparency and reducing complexity.
- They should consider both qualitative and quantitative aspects.
- They should allow for differences across countries and time in the issues being addressed.

One of the basic challenges is trying to match the types of indicators policy makers would like, simple, representative and relevant, with the complexity of the issues involved. More specifically, there are three main practical problems:

- The large number of indicators from which to choose;
- The difficulty in interpreting simple, summary indicators which are often too general; and
- The lack of data and the significant costs in collecting additional information, which limits the implementation of an ideal and common set of indicators.

Both the UK indicator set and the UN/World Bank/OECD indicator set reacted to these problems by refining both a narrow and a broad set of indicators. For the UK, the Headline set of 15 indicators is the tip of a much larger pyramid of around 150 core indicators and other sets of indicators on waste, water, chemicals and regional and business indicators. For the UN/World Bank/OECD, the 31 indicators in the headline set include indicators which directly measure each of the seven development goals, supplemented by indicators that provide cross-checks and additional information relevant to each goal as well as ten contextual indicators.

Other issues to consider is whether the indicator set provides insight into future developments and on how best to link economic and social issues. This is a particular issue within the current agricultural and environmental debate but has a broad relevance as recognition of the importance of the social dimension of development. It should also be recognised that in developing standard sets of indicators there may be significant cross-cultural issues to consider.

#### *Policy use and analysis*

There are two main uses of indicator sets in policy analysis. First, to highlight relevant issues, and second, to set targets for policy. While the first use appears more common, the UK government's aim is to ensure that each of the 15 headline indicators moves in the right direction and is committed to implementing policies which ensure this occurs.

However, focusing too heavily on indicators may distort policy choices. This may occur for a number of reasons:

- While the indicators may be easy to understand, they provide no immediate indication of the cost or benefit of different strategies;
- Lack of reference thresholds make it difficult to assess whether trends are sustainable or otherwise;
- Policy may focus on indicators in the set, to the exclusion of potentially more relevant issues for which no indicator exist;
- A close link to policy may "politicise" the selection of indicators. Examples of this from the UK are the exclusion of indicators on poverty and resource consumption.