

# Measuring Sustainability - About Political and Statistical Needs and Opportunities to Strengthen the Global Principle of Sustainable Development

Frank H Ö N E R B A C H, Dr. Jörg MAYER-RIES  
*Federal Environment Ministry, Germany*<sup>1</sup>

There is a strong relationship between sustainable development policy and new measures. Policy often has to act under uncertainty, with challenges evolving too fast for the option of waiting for the final and all-including truth, delivered by existing accounting systems and new measurements. Policy has to act now. Therefore on the one hand better and broader dissemination and use of existing information of all information providers is needed. On the other hand we need an underlying vision for new measurements as well as new measures to define robust visions. A broad dialogue with all relevant actors is necessary: In which society do we want to live in 1, 3 or 5 decades? The internationally legitimized general principle of sustainable development offers the best basis for formulating such visions. There is no necessity to define a new general principle, but priorities and new ways to make progress in informing and guiding society towards sustainability.

## **1. The new context for strategic action in sustainable policy making concerning progress and welfare measurement – using the window of opportunities**

Considering the debate of the last 25 years there is now a new promising window of opportunity to establish new measurements or to readjust existing measures for decision making.

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<sup>1</sup> The following text is based on the authors' input paper to a European expert workshop in Nov. 2009 at the Fed. Ministry, enriched by comments of several participants and revised again by the authors.

18 years after the world summit on environment and development in Rio de Janeiro we observe a remarkable breakthrough of the general principles of sustainable development (SD) on nearly all fields of policy making and economic management – even if it is not named SD. For this reason we see no necessity to define new development or progress principles. Quite the contrary: The steps to fight climate change on the basis of defined physical limits of the planet, the debates on green growth, green economy concepts and new regulations for the finance market, or the acknowledgement of greater relevance of individual well-being – all topics follow in general the principles of SD:

- Each generation must solve its own problems and not burden the next generations with them. It must also make provisions for foreseeable future problems.
- Renewable natural goods should only be used in long term within the bounds of their ability to regenerate. Non renewable natural goods (including fossil energy) should only be used in the long term within the context of how their functions can be replaced by other materials or energy sources.
- The release of materials or energy should not exceed in the long term the adaptability of the ecosystems.
- Dangers and unjustifiable risks to human health should be avoided

Political fields should be integrated so that economic growth, high employment, social cohesion and environmental protection go hand in hand.

- in order to strengthen social cohesion poverty and social exclusion should be prevented as far as possible; opportunities for participating in economic development should be open to all sections of society; necessary adaptations to demographic change should take place at an early stage in politics, economy and society; everybody should take part in social and political life.

These examples of sustainability management rules – as defined in the German national strategy on sustainable development – show the great range of challenges concerning the monitoring and measurement of such a development, especially concerning environmental sustainability.

The described new context for new measurements is less shaped by a new scientific/conceptual development, which has made substantial, but not sufficient progress since the 1980ies and 1990ies. What makes the context really new is the fact that the debate has stepped from academic circles into the spotlight of policy making and to the top

of the agenda of international organisations. This is a crucial qualitative step. Also new are the pressing global challenges such as economic crisis, climate change, biodiversity loss and a growing food scarcity, which call for new assessment methods.

At the same time, a profound irritation of politicians and civil servants regarding their perception in society can be observed. Surveys of the last years show: Politicians can't count on the robust trust of citizen's in politics and even statistics. Thus, in addition to other crises we experience a growing democracy crisis. That seems to be one important reason for a new openness of politicians and statisticians to get closer to citizens minds, for example with happiness or well-being measurements.

But the unsolved conceptual problems of the 80ies and 90ies for such new measurements are still the open questions of today:

- whether, what and how to monetize
- whether, what and how to aggregate
- how to measure and integrate stocks in flow-oriented systems
- how to differentiate price and quality changes
- how to get a grip on distribution, informal economies, service economies, natural, social, human capital etc.

The new context is – positively - framed by the social and political backing of these discussions which has changed significantly - regarding level, strength and scope:

- indicators have become established instruments in policy and public management
- powerful institutions, well-known scientists and politicians of highest level ask for different measures, that are more adapted to today's demands and challenges
- welfare measurement has left the arena of academia and statistics - new and innovative approaches have been developed for private and public accounting as well as for political debate
- the ecological bias of welfare measurement debates in the 80ies is now enriched and partially interlinked with socially and economically biased demands for new measurement

- the trade-off between increasing and changing societal demands for reliable data and restrictions in public budgets and resources to serve those demands through political decisions on the priorities of official statistics
- the demand for dialogue and a new contract between science and society challenges statistics to communicate better with society and to match better with perceptions of individuals on the one hand and concrete political strategies/programmes on the other hand
- private business, non-governmental organisations, local, national and international policy demand academic and political discussions as well as conceptual and empirical work and they're themselves substantially involved in these discussions and activities.

Media, political and public attention is grabbed by a continuum of single studies, commissions and conferences such as (Chinese) Green GDP, Stern-Report 2006, Beyond GDP 2007, TEEB 2008 ff., Footprint-calculations, Stiglitz-Commission 2009, OECD Global Project on Measuring Progress since 2004 etc.

International, national and sub-national powerful strategies for green growth/green economy for eco-innovative economies and for encompassing individual and social prosperity need measurement systems which are able to quantify and qualify the objectives of these strategies, the present state and the success of policies towards the future. This has to be a focus for the next steps of the statistical and political agenda.

## **2. Actual challenges for policy making to reach a sustainable development of societies in regard to welfare measurement**

The current global discussions now deal in our perception with the long neglected core of SD: How to manage economic activities and markets in a sustainable way, how to sustain the productivity of natural and social assets for future generations? To answer these questions we need a debate on concepts of sustainable or green economy, encompassing structures, processes and impacts. Concepts of economic growth are just one – certainly very important – aspect of this debate.

For this reason policy has to define political visions, leading principles and goals making SD strategies concrete (beyond recalling general Brundtland definitions on the one hand and reducing SD to single SD indicators on the other hand). This goal setting task of

sustainability management – What means sustainable wealth and growth? Which aspects characterize desirable progress? What should structures and processes of a low-carbon- or a zero-emission-society look like? - cannot be answered by statistics alone. A broad dialogue of all stakeholders and with the citizens is needed. The United Nations conference “Rio +20”, 2012 in Rio de Janeiro, with the main focus on “Green economy” is therefore an important step in the right direction.

But statistics has to play an important role for the development of the creation of political visions and their implementation. Measuring is an instrument to support policy, at best by raising awareness and critical questions around state and trends of SD in the political and public sphere. As well as there is no linear bottom-up mechanism leading from statistics as collection, structuring and evaluating data to formulating and guiding SD policy, policy also can't keep on track without a broad variety of measurements of trends and developments.

What we nevertheless need is better cooperation. Experiences show that non-statisticians are often not in the position to assess the presented information correctly and effectively. A better assessment of data can only happen in a closer and fairer partnership between statistics, science and policy. SD measurement is much to do about long term perspectives whereas policy has often to act in short term – this tension has to be tackled explicitly and in a fair way.

Even more: There is still a need to foster the communication capabilities of statistics: Keep it simple to reach as much people as possible, use the whole spectrum of statistical information, especially the accounting systems.

Sustainable development policy needs measurement approaches and indicators on all levels, regarding all social sectors respective all policy areas, related to social/political objectives (targets, visions), states (stocks, capacities) and processes (flows, trends), taking the thresholds and limits of the global ecosystems as the main bottom line into account. Risks and distributional aspects of wealth production and growth are crucial for short- and long-term rational politics.

This means it is not adequate to distinguish between long-term measurements (like forecasts) as the most useful measures for sustainability and measures for today needs. The current data tell us about the intra-generational justice of sustainability, of the generation today. Forecasts and scenarios alert us what could happen or which paths into the future

exist. Future sustainability can only be reached by sustainable action today, reflecting future effects of present societal objectives, perceptions and decisions.

More accurate measuring of economic assets and processes along perspectives of production, distribution and consumption are therefore a central part of management. These “classical reform issues” concerning national accounting (see Stiglitz-Commission) are crucial from an environmental and SD policy perspective.

But also SD measurements of ecological and social assets and processes and their systemic mechanisms and limits have to be enhanced and differentiated to the same degree as the modelling and observation of the economic sphere. The multidimensionality of societal wealth and the inter linkages of its cultural, social, technical, economic and physical productive parts (“life quality and sustainability issues” along Stiglitz-Commission) must be represented in the scientific, public and political arena.

Composite indicators have many weaknesses and should be used very carefully. But they could serve as an invitation to look at an issue more closely. In that sense they are more a communication instrument to raise the interest of media and general public. In this respect the EU GDP and beyond process makes important steps forward.

Subjective indicators are relevant but their interpretation is often not easy. In our perception they seem only useful in strong relationship with objective statistics.

Very important because of the short time frame for implementation: Classical statistics need to exhaust the whole potential of existing data, e.g. formulating actor related and per capita data, to be attractive for data users.

### **3. Strategic options for sustainable environmental policy regarding welfare measurement**

The results of the EU GDP and Beyond-process, the OECD Measuring Progress process and the Stiglitz-Commission concerning the different levels and issues of demand for reform are helpful in many respects and should be a guideline for further action.

The distinction between measurement requirements concerning the present performance of welfare production in a narrow (economy) and more holistic dimension (quality of life) makes clear that both arenas of reform activities are necessary in themselves and in combination.

More debatable is the distinction of measurement requirements for present performance (quality of life including economic aspects) and for future aspects. It is important to keep in mind that SD asks not only for inter-generational justice (for future generations) but also for intra-generational justice for the living generation today. This means the current national SD strategies try to improve societal development in the direction of SD (with actions today and their impacts in the near or far future). SD indicator sets (on national as well as on EU-level) try to monitor these efforts.

This implies that sustainability policy should influence the way, “life quality issues” and also “classical issues” of welfare measurement reforms proceed. For example the German research project for a “New Welfare Index” approach – oriented towards complementing GDP in a set of SD indicators - has empirically shown the significant meaning of ecological costs but also distributional effects and non-market-activities.

Such defensive cost approaches can be seen as a module of bridging concepts, as long as consistent capital/stock and service/flow–accounts within each and linking all dimensions of social, natural and human wealth are not available. With their monetary and income-respective demand-side oriented approach they are able to link up to mainstream accounting in a constructive critical manner, showing empirically deficits of classical GDP.

Therefore also environment satellite systems (like the German Environmental Economic Accounting system) should be used, further developed and dealt as international benchmark (see EU GDP and Beyond). The strength of such data systems lies in the close relation to GDP and National Accounts. This allows integrated analyses of environmental and economic issues and enables to identify and balance tradeoffs between different development goals as well as to depict reasons for certain developments. Such analyses are important for a holistic policy approach like a policy for a sustainable development.

The role of GDP as the only reference value for a variety of indicators (e.g. resource and energy efficiencies, innovation), should be complemented by references of annual/national flows to stocks and global flows (e.g. footprint approaches, used area, water), combined selected resource and value flows (e.g. Sustainable Value approach, German Emission-Banking approach).

Also the use of sustainable development indicator sets should be strengthened from the local up to the European level (see GDP and Beyond). To derive parts of these indicators from data systems like Environmental Economic Accounts would be helpful to enable

broader analyses and understand reasons for certain developments. Single isolated indicators often do not give necessary background information.

Systematic statistical work as well as experimental empirical studies and innovative conceptual analysis should be politically supported.

Empirical approaches focussing on single resource flows (e.g. water, phosphor etc.), specific sectors and systems (e.g. ecosystem accounting studies and ecosystem services study TEEB) should be fostered although being incomplete, preliminary, eclectic and experimental.

For the short term we need to shift the relevance of prominent specific measures (see Stiglitz-Commission) for decision making. In general: Less concentration on the various economic data, more concentration on data on natural resources, social cohesion, global justice as well as on subjective well-being.