



Bellagio STAMP: Principles for sustainability assessment and measurement

László Pintér^{d,*}, Peter Hardi^{b,1}, André Martinuzzi^{c,2}, Jon Hall^a

^a Australian Bureau of Statistics, 35 Booroodarra Street, Reid, ACT 2612, Australia

^b Center for Business and Society, CEU Business School, 1023 Budapest, Frankel Leo u. 30-34, Hungary

^c RIMAS - Research Institute for Managing Sustainability, Vienna University of Economics and Business, Franz Klein Gasse 1, A-1190 Vienna, Austria

^d Department of Environmental Sciences and Policy, Central European University, Budapest, Hungary

ARTICLE INFO

Article history:

Received 24 March 2010

Received in revised form 8 July 2011

Accepted 8 July 2011

Keywords:

Measurement
Assessment
Indicators
Evaluation
Sustainability
Principles
Progress

ABSTRACT

Revisiting the way society defines and measures progress has been identified as one of the key levers in tackling the root causes of unsustainable development. The recent economic and food crises exposed a critical weakness in the ability of currently mainstream indicators of progress to provide early warning and take adequate preventive action.

Since the early 1990s a growing number of organizations have been involved in the development of indicator systems around the key socio-economic and environmental concerns of sustainable development within their own context. In order to provide guidance and promote best practice, in 1997 a global group of leading measurement and assessment experts developed the Bellagio Principles. The Bellagio Principles have become a widely quoted reference point for measuring sustainable development, but new developments in policy, science, civil society and technology have made their update necessary.

The Bellagio Sustainability Assessment and Measurement Principles (BellagioSTAMP) have been developed through a similar expert group process, using the original Principles as a starting point. Intended to be used as a complete set, the new BellagioSTAMP includes eight principles: (1) Guiding vision; (2) Essential considerations; (3) Adequate scope; (4) Framework and indicators; (5) Transparency; (6) Effective communications; (7) Broad participation; and (8) Continuity and capacity. The paper provides the rationale for the revision of the principles, their detailed description and guidance for their application.

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1. Introduction

Changing the way society measures progress represents a key leverage point in tackling the root causes of unsustainable development (Hjorth and Bagheri, 2006; Meadows, 1998). The recognition is not new, but the gap between the mainstream practice of measuring progress and what the public (and, increasingly, policy-makers) believes should be measured has grown.

The severity and interlinkages of the global crises in financial markets, food and climate that broke into the open in 2008 after many years in the making presented societies with unprecedented challenges. Societies and major institutions were caught off guard partly because the key indicators they were (and still are) using were blind to problems that triggered the crisis. Managing the complex web of sustainability problems as a result of the crisis requires

new tools. We must be much better at assessing financial risk and performance, both at the macro and microeconomic level. But we must also use better metrics for tracking poverty, food security, carbon, water availability and a host of other issues that are not well captured by traditional economic accounts (see, e.g., Costanza et al., 2009; Dasgupta, 2010).

This was confirmed recently by the Commission on the Measurement of Economic Performance and Social Progress and iterated in the Istanbul Declaration, both representing high-level calls for action (OECD, 2007; Stiglitz et al., 2008). A link is increasingly being made between the purpose and measurement of economic growth in a finite world and the need for structural changes in macroeconomic policy—including, as a central element, a redefinition of the goal of development from growth to well-being and sustainability.

For at least three decades, there has been recognition that this requires a systematic revision of our monitoring, statistical data collection and reporting systems. Hundreds, if not thousands, of such initiatives have been started and more are born every day (International Institute for Sustainable Development (IISD), 2009; OECD, 2009a). Many of the initiatives involve science-policy dialogues and engage civil society in a discourse on the key constituents and targets of sustainability, well-being and quality of life and the actions needed to get us closer to these targets. We continue

* Corresponding author.

E-mail addresses: lpinter@iisd.ca (L. Pintér), hardip@ceubusiness.org (P. Hardi), andre.martinuzzi@wu.ac.at (A. Martinuzzi).

URL: <http://www.envsci.ceu.hu/> (L. Pintér).

¹ Tel.: +361 887 5028; fax: +361 887 5005.

² Tel.: +43 664 405 12 97; fax: +43 1 31336 90 4698.

moving toward an ‘indicator zoo’, characterized by a multitude of approaches but still limited impact on policy and outcomes that are priorities for sustainable development (Pintér et al., 2005).

In recognition of the risks and opportunities associated with the growing measurement movement, in 1996 an international group of leading measurement practitioners developed the Bellagio Principles (“the Principles”) to provide high-level guidance for measuring and assessing progress toward sustainable development (Hardi and Zdan, 1997; IISD, 1997). They recognized that measurement reform is about more than selecting new indicators and technical revisions to our statistical data collection and reporting mechanisms. The idea behind the Bellagio Principles was that harmonization is not simply a matter of selecting common frameworks and indicators, but of following a common approach of developing and using measurement systems as an integral part of how institutions and society function. The Principles were not expected to lead directly to common indicator sets, but to help guide overall indicator system design and analysis that—over time—will result in convergence and better accountability.

The original Principles became widely known. To keep them up to date and reflect the changing context for measurement, a review and update was organized, following a similar approach used for developing the original Principles. The review meeting, involving internationally recognized measurement practitioners, was held in April 2009 at the Rockefeller Foundation’s Bellagio Center in Bellagio, Italy, where the original group had gathered. The meeting was co-organized by the IISD and the OECD’s Measuring the Progress of Societies initiative, a global policy coordination forum on the use of measurement in driving policy change compatible with sustainable development (OECD, 2009b).

Renamed the Sustainability Assessment and Measurement Principles, or STAMP, the Principles are more succinctly phrased and eliminate some of the ambiguities and duplications that were present in the original set and also some new points of emphasis. The number of Principles has been reduced from ten to eight. While still aiming for brevity, this paper provides the rationale for the revision of the Principles and additional guidance to aid in their interpretation and use.

2. Foundations

Sustainable development is an integrative concept. Consequently, any assessment of progress toward sustainability must also be an integrative process with a corresponding framework for decision-making (Ginson, 2006). For 60 years, Gross Domestic Product (GDP) has been the dominant way in which the world has measured and understood progress. This approach has failed to explain several important factors that impact on people’s lives (European Commission, 2007, 2009; Stiglitz, 2009; Thornhill, 2009). A plethora of approaches available to measure welfare and sustainable development now exist, without a consensus on which one is correct at a general level (Kulig et al., 2010). The attention to long-term trends in coupled socio-ecological systems, as well as to the importance of evidence and accountability in dealing with related risks, has started to affect political decision-making. Evidence-based policy-making represents an effort to reform or restructure policy processes in order to improve prioritization and their effectiveness (e.g., Young et al., 2002). At the same time, the level of analytical capacity to implement evidence-based policy-making is low; thus risk of failure of evidence-based policy-making is high (Howlett, 2009).

There is more emphasis on developing a sound evidence base for policies, including long-term impact evaluations of programs. These evaluations need to be theory-based and use “multi-method” approaches (Sanderson, 2002). While the call for “evidence-based

policy” accompanied by “green” policy instruments is strengthening, as is shown e.g., in an analysis of the practice in the United Kingdom (Boaz et al., 2008), experience from the European Union and OECD countries also shows that decisions that are based on the principles of sustainable development and balance environmental, social and economic targets are scarce and often ineffective. According to a recent synthesis from the fields of political science, geography, sociology and science and technology studies, many policies directly contradict available “evidence” (Juntti et al., 2009).

Democracy can be seen as an ally of long-term policy design, to the extent that it can generate public legitimacy and accountability, and potentially foster more equitable and just outcomes. Recent debates on how to “manage” policy transitions to sustainability have been curiously silent on governance, despite their potential implications for democracy (Hendriks, 2009). Evidence-informed practice and policy at the macro level can also deal with ethical issues and provide answers to such central questions as how to reflect ethically on problems of scarce resources, social and economic justice, and empowerment of clients (Gabbrill, 2008).

From the perspective of science, two recent aspects need to be highlighted: the emergence of post-normal science and the increasing demand for policy-relevant science. With regard to the first, *post-normal science* underlines the importance of uncertainty and the need to recognize multiple perspectives in trying to understand the nature of an increasingly complex and interlinked world (Funtowicz and Ravetz, 1993). This is particularly relevant for areas of research that study the interaction of “linked socio-ecological” systems, often studied in the context of a place or a particular problem (Gallopín, 1996).

Science that is defined, among others, more by the nature of the problem rather than by the tools and framework of a particular discipline has also contributed to the emergence of sustainability science (Kates et al., 2001). While sustainability sciences has other attributes, from the point of view of *policy relevance* it emphasizes the growing role and responsibility of science in tackling real-world, practical problems that require integrative, adaptive approaches that connect not only across disciplinary fields, but also in terms of temporal and spatial scales.

Another element with a strong connection to policy is related to the development of monitoring, data collection and data sharing mechanisms. While data quantity and quality continue to be serious problems, progress is being made. In terms of data collection *Group on Earth Observation* (2009) represents a major international initiative aimed at significantly and systematically improving the availability and quality of geospatial data. The availability of cheaper monitoring tools combined with pervasive wireless technology and growing access to the Internet enables a type of *civic science* where data collected through traditional methods and institutions of science can be organically combined (“mashed up”) with both quantitative and qualitative information gathered by citizens for use in public policy and even individual decision-making (Backstrand, 2003). The development of Web 2 (social networking, wikis and so on) has opened new opportunities for both producing and using information.

Another characteristic of civil society initiatives—although not only theirs—is the active and increasing interest in networking with others involved in measurement work. Some of the networks that sprung up over the last few years, such as the mostly U.S.-based International Sustainability Indicator Network (ISIN, 2009), initially withered but later became successfully reincarnated and also developed an educational form—in the case of ISIN, the Community Indicators Consortium (CIC, 2009). Others, such as the Canadian Sustainability Indicators Network (CSIN), have grown rapidly and even integrated a wide range of government and business members (CSIN, 2011). A multistakeholder global umbrella network has been formed around the Measuring the Progress of Societies initiative

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