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**TIAS Working Group on Integrated Assessment in the 2020s**

**Reviewing principles of integrated assessment for environment & sustainable development: Second ten-year update of the Bellagio principles**

*This memo outlines the challenges for integrated assessment of environment and sustainable development. Integrated assessments have contributed to a highly effective science-policy interface during the past two decades. Given the increase in reliance on IA, the changing context and the new policy issues on the horizon, the TIAS working group proposes a broad and careful review of IA principles.*

# Current understanding

The Integrated Assessment Society (TIAS) defines integrated assessment as the “meta-discipline” that integrates knowledge about a problem domain and makes it available for societal learning and decision making processes. Public policy issues involving long-range and long-term environmental management are where the roots of integrated assessment can be found. However, today, integrated assessment is used to frame, study and address other issues at other scales (i.e. local, regional, global). Integrated assessments have been developed for acid rain, climate change, land degradation, water and air quality management, forest and fisheries management and public health. The field of integrated assessment engages stakeholders and scientists, often draw from many disciplines, as well as policy makers.

The Bellagio Principles for assessing progress towards sustainable development serve as guidelines for carrying out integrated assessment. They address the whole process including the choice and design of indicators, their interpretation and communication of the result. The principles are interrelated and should be applied as a complete set. They are intended for use in starting and improving integrated assessment activities of community groups, non-government organizations, corporations, governments at all levels, and international institutions.

Since TIAS was established, in 2003, considerably more experience has been built up in commissioning, delivering and using Integrated Assessment (IA) for environmental management and sustainable development. In particular, a larger variety of assessments has been produced. In addition to the prominent worldwide assessments, such as, the IPCC Climate Assessment Reports, IPBES and GEO, IA has also been used at the local level. Furthermore, policy analysis has increasingly become a part of Integrated Assessment. Specifically, in forward-looking assessments, alternative formats, such as megatrends, have been introduced or have been re-invented, such as backcasting.

# Recent developments and issues on the horizon

Integrated environment assessment appears to be a useful tool. For example, in global and regional environment outlooks, the use of IA as a practice has grown and become surprisingly widespread during the past decades. TIAS found similarly large numbers when we took stock of integrated assessment practices in the form of backcasting: based on a long-term vision, identifying near and medium-term necessary steps towards it. Social Impact Assessment guidelines have appeared, signaling in rich detail the growing awareness of at least some enterprises of the need to earn their social license to operate – which implies modern assessment for large new initiatives.

Integrated assessment stands for a growing and diverse practice. Process is often as important as the report. Different and overlapping communities are involved. These include, for example, makers of outlooks and the large community dedicated to measurement of progress. An active global modelling community operates in the spirit of integrated assessment. It recently produced the *Shared Socio-Economic Pathways*, scenario tools in support of forward-looking assessments that consider a wide array of societal developments. New practitioners entering, for example in China, can bring a fresh perspective. At the same time, new practitioners typically need education and training in IA techniques.

The trend in IA is towards more complex issues, because the world is becoming more complex. On the horizon are, for example, many simultaneous assessments related to the SDGs, including sector-based initiatives and contrasting claims and issue frameworks. We can also expect a need to rethink the mediation between science and policy in times of fact-free policies, as one of the more recent fashion trends.

Related to this is a shift in environmental governance from the focus on environmental problems to increasing emphasis on the exploration of response options. This shift involves many challenges for IA, including the treatment of multiple stakes, views, values, and stakeholders; the need to produce robust messages while respecting local differences in what works and what does not, and why; and the need to more extensively involve social sciences and humanities in assessment processes. The next decade will likely involve new or alternative data sources, data owners and data challenges, as well as new dissemination formats. Meanwhile, there may well be shrinking budgets for many practitioners.

The term ‘integrated assessment’ is being used widely, and somewhat loosely, to advertise studies on environment and sustainable development. In fact, in some cases it is questionable if this is proper use of the term. At the same time, studies that would qualify as ‘integrated assessment’ are not referred to as such, at least not by their makers and publishers. Assessments of regional seas are a case in point. At least some research has been done on the various dimensions of integration and on how to improve assessment processes in support of sustainable development policy setting. This includes the role of uncertainty issues and participatory approaches.

# Revisiting the Bellagio principles

Taking advantage of this growing stock of experience, TIAS proposes to review and sharpen our understanding of Integrated Assessment. What is it? What should we expect from it in the 2020s? In what terms can policy supporting bodies best propose or commission an IA study, nowadays? How can we advance our quest to make Integrated Assessments even more effective for policy makers, other stakeholders as well as intermediaries such as the press?

In particular, it will be beneficial to reflect on what we now see as integrated assessment in relation to environment and natural resources.

A range of formats can be imagined for a review, with a varying degree of rigor in terms of adhering to the formats. They range from criteria, as exist in the domain of formal evaluation reports; perhaps even official norms, as in industry standards; to guidelines, comparable to those compiled by UNEP or guidelines for social impact assessment published by the International Association for Impact Assessment (IAIA); to highly synthetic principles, comparable to the Bellagio principles.

The natural course of action is to revisit, and refresh, the Bellagio principles. It is at the level of principles that the common gene of integrated environment assessment can be found. This is important because the principles (or guidelines, or industry norms) should be useful for a wide variety of practices in a wide variety of contexts. In addition, the original Bellagio principles benefitted from review after a decade, in order to reflect a much grown practice. That revision took place in 2009. In other words, a new review by 2019 would fit a rhythm. This is now envisaged.

The Bellagio reviews of 1996 and 2009 were each conducted by workshops of approximately 25 people, by invitation. Assuming this format will again be adopted for the envisaged 2019, much care should be devoted to the selection of participants. A balance should be found in terms of regions, scale of work, policy orientation, gender and between old and new. For example, the 1996 and 2009 reviews involved a good segment of people working on indicators and worldwide measurement of progress. One feature of the previous workshops should certainly be repeated, namely participation of one or two professionals of the media.

The review could take stock of how the current principles are implemented in practice; of new thinking on impacts of this type of studies; and of insights from recent assessments, regarding information needs of policy in the 2020s. It could also consider mechanisms for further operationalizing the principles and soliciting more frequent feedback from practice.

# Envisaged result and outcome

The initial output will be a set of revised and up-dated principles (i.e. white paper) presented to practitioners and policy makers in various formats and through a variety of media. We will seek commitment from participants involved in the review to document how to best make the final product consistentup with their experiences and expectations.

We expect that the revised principles and rationale, as well as their implications, will be discussed at conferences among practitioners working at the science-policy interface over many years following the IA Principles Review event.

# Specific aspects

A brief look at current practice suggests there are quite a number of specific aspects that could be given extra attention this time around, given their implications for the design of assessments. We want to highlight a few of these special aspects to highlight in the review:

1. **Context** (in terms of environmental governance, the assessment communities, level of certainty required, timeframe for conducting assessment, resources available) of the commissioning of an assessment.
2. **Impact** and the right conditions for it, including considerations for non-state actors, e.g., in terms of policy learning processes and changes in discourse.
3. **Transparency, uncertainty and robustness** of assessments iincluding uncertainty stemming from multiple, different values and perspectives of environment and natural resources, as well as from future boundary conditions such as climate, costs and benefits of goods and services, cross-sectoral influences.
4. **Balancing** the various principles of integrated assessment and addressing synergies as well as trade-offs. This should be based on an understanding of the assessment’s objectives and design options, leading to a better understanding of what the principles mean.
5. The challenge of analyzing **vast quantities of literature**, as for example IPCC is committed to. Performing such analyses, or meta-analyses, borders on the impossible. Appreciating and understanding the variety of findings, ist causes and related framing issues have emerged as an important challenge of Integrated Assessment, especially for global assessments.

# Current working group

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Tony Jakeman: ANU · Fenner School of Environment & Society;  
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Rich Rosen, retired from Tellus Institute, Boston  
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