



# TIAS Quarterly

Volume 2, Issue 1 - March 2005

The newsletter of *The Integrated Assessment Society (TIAS)*  
<http://www.tias-web.info>

## In This Issue:

The Society	p. 1
Challenges for Integrated Assessment	p. 1
TIAS meets in Berlin	p. 3
Events and Courses	p. 4
New Publications	p. 4
Useful Links	p. 5
Call for articles	p. 5



Final conference discussion, Berlin

## The Society

The Integrated Assessment Society is a not-for-profit entity created to promote the community of inter-disciplinary and disciplinary scientists, analysts and practitioners who develop and use integrated assessment. The goals of the society are to nurture this community, to promote the development of IA and to encourage its wise application.

The supporting board of TIAS is listed on the TIAS website: <http://www.tias-web.info/>.

### TIAS President

**Claudia Pahl-Wostl**, Professor for Resource Flow Management Institute of Environmental Systems Research, University of Osnabrück, Germany

### TIAS Vice-presidents

**Hadi Dowlatabadi**, Canadian Research Chair Professor and Academic Director, Sustainable Development Research Institute and Liu Center for Global Issues, University of British Columbia, Canada

**Jan Rotmans**, Professor, Faculty of Social Sciences, Erasmus University, Rotterdam, Netherlands

## Feature

### Challenges for Integrated Assessment: IA Scientists and Practitioners meet in Berlin

Late this winter, Harnack Haus in Berlin welcomed 80 IA researchers and practitioners to identify the challenges that lie ahead for the Integrated Assessment community. This three-day event marked the closing conference of the European Forum for Integrated Environmental Assessment (EFIEA) and first official conference of The Integrated Assessment Society (TIAS). The two goals of the conference:

- to identify challenges for Integrated Assessment in the years to come based on a critical analysis of past and present achievements in several domains;
- to broaden and stabilize the community of researchers and practitioners in the field of integrated assessment (IA).

To address the first goal, conference organizers invited five scientists to prepare and present papers on five themes. For each theme, a policy practitioner was invited to respond to the paper with attention to policy implications and challenges ahead.

#### *Climate Change*

Presented by Steve Schneider, Stanford University  
Discussant: Karsten Sach, International Co-operation, Global Conventions, Climate Change, Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany

#### *Ecosystem Management and Biodiversity*

Presented by Brian Walker, CSIRO Sustainable Ecosystems, and The Resilience Alliance  
Discussant: Horst Korn, Biodiversity Unit, German Federal Agency for Nature Conservation

#### *Integrated Water Resources Management*

Presented by Paul Jeffrey, School of Water Sciences, Cranfield University (due to illness, presented by Claudia Pahl-Wostl)  
Discussant: Mike Pocock, Three Valleys Water, UK

#### *Land Use and Implications for Water*

Presented by Floor Brouwer, Agricultural Economics Research Institute, Wageningen University  
Discussant: Wilfrid Legg, Policies & Environment Division, OECD Agriculture Directorate

#### *Societal Transitions towards more Sustainable Development Paths*

Frans Berkhout, Institute for Environmental Studies, Vrije Universiteit Amsterdam  
Discussant: Felix Luitwieler, Strategy and Policy Affairs, Ministry of Environment, Netherlands

The papers themselves will be published in the online journal, Integrated Assessment ([www.iaonline.org/](http://www.iaonline.org/)) later this year. All presentations from conference are available on the EFIEA website ([www.efiea.org](http://www.efiea.org)). Abstracts are presented below.

### **Integrated Assessment Modeling of Global Climate Change: Much Has Been Learned—Still a Long and Bumpy Road Ahead** *Stephen Schneider and Janica Lane, Stanford University*

The paper presents a history of integrated assessment modeling of climate change, discussing many relevant modeling studies produced over the last few decades. It identifies the era following the release of the Intergovernmental Panel on Climate Change's Third Assessment Report as a new phase in integrated assessment modeling and describes pioneering studies undertaken since that time. The paper then pinpoints challenges and initiatives in integrated assessment modeling, both in terms of the models themselves and in terms of communicating model results to policy makers and the general public. It emphasizes that improved modeling will produce results more relevant to policy

makers, but these results must be a collaborative effort between scientists and laypeople, and must be communicated effectively in order to have any impact on the decision-making process.

### **A Resilience Approach to Sustainable Development**

*Brian Walker, CSIRO Sustainable Ecosystems, and The Resilience Alliance*

Many of the failures in natural resource-use systems are due to failure of the ruling management paradigm. This command-and-control approach to management is underlain by four flawed assumptions: i) a focus on average conditions and particular time and space scales; ii) a belief that problems from different sectors in these systems don't interact; iii) an expectation that change will be incremental and linear, and iv) an assumption that keeping the system in some particular state will maximise yield, indefinitely. An alternative approach, based on resilience, assumes instead that social-ecological systems behave as complex adaptive systems with alternate attractors (alternate system regimes). Three attributes of these systems - resilience, adaptability and transformability - determine the topology of the system's stability landscape, and therefore the likelihood of regime shifts. Resilience governance and management is therefore concerned with learning how to avoid (or to cross) thresholds between alternate regimes and how to influence the positions of the thresholds.

Given the enormous uncertainty inherent in these systems, a resilience based approach needs to be complemented by the ability to assess whether, in fact, current or proposed levels and patterns of resource use are sustainable (will avoid regime shifts that lower social welfare). The inclusive wealth approach of Arrow et al. is suggested as an appropriate measure.

### **Coming Home: a Personal Re-evaluation of the Aspirations and Utility of Integrated Assessment.**

*Paul Jeffrey, School of Water Sciences, Cranfield University, College Road, Cranfield, UK.*

The early phases of any new initiative are exciting times, full of enthusiasm, anticipation, and promise. Whilst the field of Integrated Assessment (IA) retains many of these features, it is now, as an intellectual project, moving into maturity and middle age; an appropriate moment, perhaps, for reflection and self analysis. In presenting a personal view of the ambition and application of IA, this contribution adopts a very simple compositional structure which allows us to present a dialogue between objectives and practice. Following a review of why we conduct IA and some of the attendant practical challenges, we go on to describe an example of IA research in the field of water management. Conclusions reflect on the role of IA in the context of contemporary developments in theories of knowledge creation and socio-natural systems management.

### **Shared Visions of the Future in Systems Innovation**

*Frans Berkhout, Institute for Environmental Studies, Vrije Universiteit Amsterdam*

Representations of the future, so-called 'guiding visions' or 'guiding targets', are often seen as important to processes of system innovation. This paper is concerned with the way technological expectations are generated, articulated and deployed in processes of system innovation. Expectations are argued to be intrinsic to all social action, and visions of the future are universal to all socio-technical action. These visions are ubiquitous, dynamic and competitive with each other. Social actors act in relation to private visions of the future that are complexly related to visions that are widely shared. Some characteristic features of future visions are identified, and the

specific roles visions play in the context of actor networks engaged in processes of systems innovation are discussed.

### **Sustainable Resource Management of the Rural Land in Europe**

*Floor Brouwer, Agricultural Economics Research Institute, Wageningen University and Research Centre.*

(Based on presentation; paper forthcoming) There are a number of land use aspects to be explored within the Integrated Assessment arena. These include processes of changes in the rural countryside that operate within the context of sustainability; policies that interact with divergent patterns of land use throughout Europe; and the emergence of new relationships between land and water, facilitated by new institutional structures. The integration and strengthening of relationships among environment, nature and landscape in rural areas are explored along with a direction for IA research in this context.

With policy as a central theme of the conference, participants welcomed **Jaqueline McGlade Executive Director of the European Environmental Agency**, who provided a summary of the many activities of EEA. In addition to contributing to informed decision-making and integrating environmental considerations into economic policies in the European Community, EEA also coordinates the European environment information and observation network (Eionet). Eionet is a shared information base among 400 organisations which is also made available for decision-making and the public. EEA is focusing now on: the development and improvement of monitoring; assessment and information management tools (e.g. for air quality and dangerous substances); the integration of monitoring data in an integrated spatial assessment perspective; and the development of a platform for Integrated Spatial Assessment.

On the final day of the conference, three young researchers were selected to present posters on their research in the last plenary session:

1. Saskia Hommes - University of Twente: Integrated Assessment Framework for Water Management
2. Alice Bows/Sarah Mander - Tyndall Institute: Integrated Assessment Scenario's
3. Marc Pares/Elena Domene - University of Barcelona: Understanding urban sprawl-water consumption relationships in metropolitan regions: An Integrated Assessment Approach

### **Integrated Assessment: Multiple Futures**

*(based on conference results by Jan Rotmans)*

The history of IA goes back some three to four decades. Starting out as systems analysis, it later developed into integrated systems analysis, and has now become integrated systems analysis embedded in a process context. So what is next for IA?

We in the IA community can begin by counting our blessings. We have produced many empirical IA studies, articles and books, and innovative IA methods. We have had some influence on policymaking, and we are a growing community which has become institutionalized. We now run summer schools and other training sessions, conferences and workshops, and we have our own journal.

What has emerged from or been reinforced through this conference are the various challenges which still lay before us: We need to strengthen our **theoretical foundation** and produce more case studies. We must **communicate** our insights better and in a more advanced manner. We need to **reach out** to new groups and look for more clients. And we must **remain coherent**.

A **new paradigm** is emerging which is not incongruous with the existing paradigm but builds upon it and further advances it. This new paradigm for IA has not yet taken shape maturely, but its contours can be recognized already. It must be built in reflexivity. We must reason from limitations and boundaries and build that into underlying assumptions (i.e. complexity, uncertainty, plurality).

Such a paradigm must reflect:

- Inter- and transdisciplinarity
- Non-linear knowledge generation
- Social learning process
- System innovation rather than system optimization
- Complex systems science as the overarching framework

IA as **complex systems science in a complex process** context means we develop various kinds of:

- Models - Multiple scale, agents, adaptive structure
- Scenarios - no extrapolations, discontinuities, surprises
- Indicators - interlinked framework of indicators
- Participatory methods - which are tailored to heterogeneous stakeholders groups; include linked participatory methods in same context; are experience-driven; incorporate non-rational issues (emotions, power, intuition, tacit knowledge) and can be adapted while learning in a multi-stakeholder context.

The IA community has delivered and contributed to an IA knowledge base that is rapidly evolving. With an abundance of IA experience behind us, we have also learned a great deal. What we need to do now is communicate these learning experiences in a more advanced manner, and we need to deliver even more and better.

#### **A Summary Note from TIAS President**

A theme which repeatedly surfaced in conference discussions was the link between IA and policy-making. A significant challenge for IA scientists and practitioners is that decision-makers want distilled information and are generally not very keen to learn about uncertainties and complexities surrounding a particular problem. As stressed in the conference summary, IA is about "complex systems science in a complex process" and scientists need to work with policy advisors to communicate this better within the decision-making arena. Related to this, we also need to consider how far the engagement of IA scientists should extend into the policy arena. A partial response is to better integrate IA into decision-making, through, for example, the establishment of IA advisory bodies and improved communication with policy advisors. This is a challenge which The Integrated Assessment Society must help the IA community address.

## **TIAS meets in Berlin**

The EFIEA/TIAS conference in Berlin also provided an opportunity for the first TIAS members meeting. On March 1st, 13 TIAS members (and 12 other conference participants who joined in as observers) met to discuss, among other things, how to strengthen outreach activities and expand the Society's network.

One of the best means of increasing TIAS' profile is for the Society to be 'present' at relevant events and conferences. TIAS posters, brochures and slides will be made available to members for conference booths and sessions. Slides will be downloadable from the website. TIAS will look for ways to link with the four global assessments to be published in 2007, and will actively pursue links with the policy community (especially policy advisors) and relevant professional associations and societies. In addition, more attention will be given to encouraging non-European involvement especially from developing countries. Through a revised brochure, the Society will demonstrate how we can support the work of these various groups.

Another important activity for TIAS is training and education. In addition to developing education materials, organizing summer schools and training courses for young researchers, the Society will also help to link practitioners with training courses and materials tailored to those in the policy sector. The latter was identified as a strong need both in the meeting and in the conference discussions. In this context, the Society will also try to link with the UNESCO decade for education in Sustainable Development.

The next official meeting of the Society will be held in 2007.

## **Events and Courses**

10 - 11 May, 2005. **Doctoral Workshop: "Drinking Water: Economics and Regulation"**. Swiss Federal Institute of Technology in Lausanne, Switzerland. The purpose of the workshop is to develop graduate students' own ideas, discuss their research goals, approaches, theories and preliminary results.

For more information contact Patricia Luis-Manso. Email: [patricia.manso@epfl.ch](mailto:patricia.manso@epfl.ch)

18 - 19 May, 2005. **First International Conference: "Multifunctionality of Landscapes-Analysis, Evaluation and Decision Support"** University Giessen, Germany. Organised by the Collaborative Research Centre SFB 299 "Land Use Options for Peripheral Regions"

<http://www.sfb299.de/conference/>

Deadline onsite registration: May 1, 2005.

Contact: Dr. Martin Bach, Email: [martin.bach@agrar.uni-giessen.de](mailto:martin.bach@agrar.uni-giessen.de)

4 - 13 July, 2005. **TIAS Summer School: "Stakeholder Participation and Modelling in Sustainable Resource Management."** Osnabrück, Germany.

Deadline for Applications: 15 April, 2005.

[www.tias-web.info/](http://www.tias-web.info/) Contact: Caroline van Bers. Email: [cvbers@usf.uos.de](mailto:cvbers@usf.uos.de)

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12 September - 1 October, 2005. **International course: "Facilitating Multi Stakeholder Processes and Social Learning: Advanced Course in Upscaling Participatory Approaches"** International Agriculture Centre (IAC), Wageningen University.

Deadline for Applications: 15 August, 2005.

<http://www.iac.wur.nl/iac/index2.htm?courses/module.cfm?code=61/50/2005>

11 - 14 September, 2005. Conference/Call for Papers: **Complexity and Ecological Economics Conference: Complexity, Science & Society** Fritjof Capra - Conference Keynote Lecture and Kozo Mayumi - Ecological Economics Keynote Lecture. Liverpool, UK.

[www.liv.ac.uk/ccr/2005\\_conf](http://www.liv.ac.uk/ccr/2005_conf)

18 - 30 September, 2005. **AVEC Summer School: Integrated Assessment of Vulnerable Ecosystems under Global Change.** Peyresq, Alpes de Haute-Provence, France.

<http://www.pik-potsdam.de/avec/peyresq2005.html>

Deadline has passed, but interested individuals may contact Sabine Lütkemeier ([sabinelu@pik-potsdam.de](mailto:sabinelu@pik-potsdam.de)).

9 - 13 October, 2005. **6th Open Meeting of the Human Dimensions of Global Environmental Change Research Community. "Global Environmental Change, Globalization and International Security: New Challenges for the 21st Century"**. Bonn, Germany.

Registration deadline: 15 June 2005.

<http://openmeeting.homelinux.org/concept.htm>

9 - 12 November, 2005. **First open science conference. DIVERSITAS: Integrating Biodiversity Science for Human Well-being** Oaxaca, Mexico.

Registration deadline: 15 August 2005.

<http://sustsci.harvard.edu/events.htm#diversitas-osc1>

#### Ongoing: **Discussion Group on Participatory Integrated Assessment**

A discussion group for PhD students and young researchers interested in Participatory Integrated Assessment has been initiated as a collaborative effort of young researchers at the Universities of Wageningen and Utrecht. The group meets roughly every six weeks to discuss relevant literature, research methods and results, as well as exchanging experiences in participating in projects. The topics discussed include, among others, participatory methods, integrated assessment, stakeholder involvement, interactive models, (group) decision support systems, interactive model construction and participatory scenario analysis.

Individuals interested in joining the group can contact Serge Stalpers ([Serge.Stalpers@wur.nl](mailto:Serge.Stalpers@wur.nl)).

## New Publications

Jeanne Kasperson and Roger Kasperson. 2005. **Social Contours of Risk.**

Available from Earthscan Books

#### **Vol. 1: Publics, Risk, Communication and the Social Amplification of Risk**

This volume shows how risks are communicated among different publics and stakeholders, including local communities, corporations and the larger society.

#### **Vol. 2: Risk Analysis, Corporations, and Globalisations of Risk**

Centres on the analysis and management of risk in society, in international business and multinationals, and globally.

S. Cohen, D. Nielsen, R. Welbourn. 2004. **Expanding the Dialogue on Climate Change & Water Management in the Okanagan Basin, British Columbia.**

[http://www.ires.ubc.ca/downloads/publications/layout\\_Okanagan\\_final.pdf](http://www.ires.ubc.ca/downloads/publications/layout_Okanagan_final.pdf)

The goal of this ongoing study is to develop integrated climate change and water resource scenarios in order to stimulate a multi-stakeholder discussion on the implications of climate change for water management in the Okanagan region of British Columbia. In addition to promoting regional interests, the study team hopes to establish a methodology for participatory integrated assessment of regional climate change impacts and adaptation that could be applied to climate-related concerns in other countries.

## Useful Links

#### **European Declaration for a New Water Culture**

The Foundation for a New Water Culture has initiated a process of discussion, in the academic world, which would lead to the signature of the "European Declaration for a New Water Culture" by one hundred experts from all the disciplines related to water management models. More information on the declaration and the scientific committee promoting it can be found on the website:

<http://www.unizar.es/fnca/euwater/>

**The Network for Transdisciplinarity in Sciences and Humanities** was initiated by the Swiss Academy of Sciences to advance transdisciplinary research in a variety of areas. The starting point is derived from experiences gained in the environmental and sustainability sciences. <http://www.transdisciplinarity.ch/>.

Current activities that are scheduled for completion this year include:

- the upgrading of an information system on transdisciplinarity;
- the support of transdisciplinary-orientated projects in a variety of research areas,
- connecting a network of interface-institutions,
- the publication of a "Handbook of Transdisciplinary Research" and
- the development of guidelines for the shaping of transdisciplinary research

#### **International Association for Impact Assessment**

IAIA is a forum for advancing innovation, development and communication of best practice in impact assessment. Its international membership promotes development of local and global capacity for the application of environmental assessment in which sound science and full public participation provide a foundation for equitable and sustainable development.

<http://www.iaia.org/>

#### **Call for Journal Articles**

The journal *Integrated Assessment* has transformed into an online journal in 2005 ([www.iaonline.org](http://www.iaonline.org)) and is seeking submissions for upcoming issues. Prospective authors may visit the website for more details on manuscript submissions.

Contact: Dr. James Tansey, Managing Editor.

Email: [james.tansey@gmail.com](mailto:james.tansey@gmail.com)

Tel. ++44 (0)1865 288943

For book reviews, please contact Claudia Pahl-Wostl: [pahl@usf.uni-osnabrueck.de](mailto:pahl@usf.uni-osnabrueck.de)

Tel. ++ 49 541 969 2536

#### **Call for Short Articles & News Items**

Members of the IA community are invited to submit feature articles and/or news items (events, publications, job openings) for publication in future issues of the TIAS Quarterly. For more information, please contact Caroline van Bers:

[cvbers@usf.uni-osnabrueck.de](mailto:cvbers@usf.uni-osnabrueck.de)

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#### **The TIAS Quarterly**

The *TIAS Quarterly* the newsletter of The Integrated Assessment Society.

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TIAS Membership information: <http://www.tias-web.info/>  
€ 40/year (students € 10/year)