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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 integrated assessment. The goals of the society are to nurture this community, to promote the development of IA and to encourage its wise application.

Integrated Assessment Defined

Integrated Assessment (IA) can be defined as the interdisciplinary process of integrating knowledge from various disciplines and stakeholder groups in order to evaluate a problem situation from a variety of perspectives and provide support for its solution. IA supports learning and decision processes and helps to identify desirable and possible options for addressing the problem. It therefore builds on two major methodological pillars: approaches to integrating knowledge about a problem domain, and understanding policy and decision making processes. IA has been developed to address issues of acid rain, climate change, land degradation, water and air quality management, forest and fisheries management and public health.

Feature

Integrated Assessment: A TIAS Holiday Reflection

by Dr Matt Hare, *El Programa de Investigación en Cambio Climático, National Autonomous University of Mexico*

Our roots – a challenge from the past

We stand at the eve of the 15th anniversary of the publication of Rotmans and van Asselt's paper on "Uncertainty in Integrated Assessment Modelling" that appeared in the 2nd volume of the journal, *Integrated Assessment*, in 2001. Essentially, it is an article about uncertainty, but looked at another way it can be seen as throwing down a gauntlet to the still new discipline that Rotmans co-founded, and to what is now the *raison d'etre* of TIAS.

In the introduction to the article, the authors explain their vision of what Integrated Assessment should be in the most challenging and uncompromising language:

"What distinguishes Integrated Assessment from interdisciplinary research is its policy dimension ... Integrated Assessment offers a systematic approach to *identification of the gaps in disciplinary knowledge* that have often frustrated policy analysis in the past. Thus, Integrated Assessment has increasingly been the *source of critical questions* ... Integrated Assessment is particularly useful for *analysis of real world problems that are complex*, operate at different levels in time and space, are immersed in uncertainty and for which the stakes are high. Because there are *no simple solutions to these complex problems facing humankind*, Integrated Assessment aims at conveying *innovative and sometimes counterintuitive insights* into the issues at hand *rather than ready-made solutions.*"

(Rotmans and van Asselt, 2001, p.43, my italics)

It is certainly worth rereading what I can only describe as a vision as inspiring as it is desirable (see references). There

are no half measures offered in this text: in Integrated Assessment one is either supporting humankind in its policy-making in a complex world by critically analysing high-stake problems, and in so doing attempting to buck the trend of looking for easy "ready-made solutions", or one is not doing Integrated Assessment. The implication is that one might be considered to be doing interdisciplinary research instead, the activity that Rotmans and van Asselt directly contrast IA with in their definition above.

A thought experiment

The challenge that I pose to the IA community is that all of us consider if what we are doing as practitioners of Integrated Assessment meets the requirements of Rotmans and van Asselt's vision.

Let us consider for a moment a thought experiment based on a couple of examples of policymaking in the past that, in my opinion, would have benefited from IA analysis and critique as defined by Rotmans and van Asselt. The thought experiment is:

If the IA community had the currently available methods and tools at its disposal when these policies were formulated 20 to 30 years ago would our community have been able to warn policymakers at that time of undesired consequences and possible policy failure?

Two examples of the privatisation of public utilities

There are numerous examples that could be provided but I have selected the privatisation of public utilities which has sustainability implications. Let us go back to the 1980's and 1990's in England. An experiment in the privatisation of essential public utilities began with the privatisation of a water utility in the south of England, and continued with the privatisation of the national railways. I remember at the time that these policies were sold to the public as a way of increasing investment in the utilities, reducing costs to government, increasing competition and efficiency, and ultimately reducing costs to consumers.

What happened next?

Reading the retrospective, financial and corporate research carried out by Allen and Pryke (2013) and by Bowman et al. (2013) regarding the privatisation of the water utility and train operating company privatisations, respectively, it strikes one that what happened next was beyond the imagining of the policymakers who set up the terms for the privatisation. It is well worth reading these two research reports to understand the sheer complexity of the financial and corporate systems that evolved from these privatisations. The trends are summarized below:

• *More complex corporate structures*

In both cases, the utilities eventually became subsidiaries of multinational corporations and/or investment consortia. The water utility, for example, became part of a large corporate structure of nine companies, headed by an investment consortium, which includes four nested holding companies and one company based in an offshore tax-haven.

• *Value extraction¹ from the utility*

In both cases, between 2007 and 2011, dividends paid out to investors as a proportion of profits have risen to or fluctuated around 100% of profits, with up to 120% for the water utility and up to 180% or more for the train operating company. Value has also been extracted by the charging of service fees and interest on loans by parent companies.

• *Financialization of customers' bills*

The water utility's assets, in terms of income from future household waterbills, were "financialized". In this context, this meant that the bills were bundled up and sold as bonds to investors, who supposedly would gamble that the bill payments would remain high into the future. This in return brought in large amounts of revenue, with the future bond debt remaining with the original utility. Apparently, there was a tendency for this inflow of money to become part of the value extraction process described above.

• *An increase in debt burden*

By 2012, the water utility company had accumulated a debt of 7.8 billion GBP, and the government organization responsible for the rail infrastructure had accumulated a debt of 30 billion GBP.

• *Little evidence of significant increases in levels of investment in infrastructure*

If debt is used for investment, then this would be to the advantage of the utility in terms of future earnings and profits, and to the general public. If this were happening in the water utility, Allen and Pryke suggest that shareholder funds (equity) in the company would have decreased between 2008 and 2012, after a peak in 2007-08. As an indicator of levels of investment in the operation of trains, there has been a decrease of approximately 33% in the total level of investment in rolling stock (trains, carriages) when comparing the last five years before privatisation to the five years prior to 2012.

• *Inadequate design of regulatory systems*

The regulatory systems that are needed to ensure a proper running of the utilities once privatised were designed without taking into account the complexity of the corporate structures that would evolve. Furthermore, the amount of "gaming" of the system by the private sector was not predicted. In the case of the water utility the mandate of the regulatory system is limited to examining the business accounts of the utility company and cannot follow or regulate the business accounts of the extensive corporate structure to which it belongs (see above).

1. Value extraction is defined here as the extraction of financial resources from a company without sufficient compensation.

No value judgements based on *a priori* positions pro- or contra-privatisation are needed to assess the success of these privatisation examples. One only needs to ask the question of whether the empirical evidence shows that the purported policy objectives have been achieved. On the whole, the answer is a negative.

Rephrasing the thought experiment

Accepting that other countries might have better regulatory systems that would have prevented some of the more blatant examples of value extraction, the thought experiment can now be better rephrased:

Could IA as it is practised now have been able to support policymakers in the 80s and 90s in England, to understand the possible financial and corporate scenarios that might develop as a result of privatisation, and thereby support them in developing an anticipatory regulatory system that would have been robust in the face of then unimagined corporate financial practices? What types of tools and what disciplinary integration would it require?

... and generalising towards the future:

Is IA today in a position to warn about, and prevent, undesired consequences of other similar high stakes policies that are being developed?

Integrated Assessment and TIAS as "debamboozlers" of ready-made policy solutions?

If the trend continues for the promotion of policy frameworks for Climate Change Mitigation and Adaptation, Disaster Risk Reduction and Sustainable Development that encourage ready-made market solutions, such as private sector support for the management of scarce resources or public risks, then IA as described by Rotmans and van Asselt (and by extension TIAS) is needed more than ever to make sure the correct policy decisions are made.

The IA community has accumulated much experience over the last 15 years about how to be effective in policy circles, and the provision of direct support for policymaking organisations is one manner of doing so. Other contributors to this newsletter are, without doubt, able to provide more examples of policy effectiveness in terms of the definition of IA given 15 years ago.

If by doing so, the IA community is able to answer in the affirmative the questions in the above thought experiment, then there is a good chance IA can reach the levels of impact that Rotmans and van Asselt envisioned back at the turn of the century, and that IA can become a scientific and neutral tool for the *debamboozling*² of policy myths and dogma of whatever kind, for which Bowman et al. (2013) rightly plea.

Are we, as a community, already at that point?

References

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- Bowman, A., Folkman, P., Froud, J., Johal, S., Law, J., Leaver, A., Moran, M., & Williams, K. 2013. The great train robbery: rail privatisation and after. *CRESC Public Interest Report*, University of Manchester.
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2. This term attributed to Keynes by Bowman et al. (2013) could be interpreted as critically exposing and explaining false assumptions in policy using empirical evidence.

Newly elected Executive Board 2015

TIAS welcomes Klaus Jacob as the new president of TIAS (see his letter to members below). As research director of the Environmental Policy Research Centre and head of the Policy Assessment research group at the Free University of Berlin, Germany, he has the knowledge, networks and experience needed to lead TIAS. We are also happy that Claudia Pahl-Wostl and Jan Bakkes continue as members of the executive board as vice-presidents. Leen Hordijk has stepped down as vice-president and now returns as a member of our advisory board. We thank Leen for his valuable contribution to our society in recent years and hope to continue to benefit from his extensive experience, network and knowledge in his advisory role. In February 2016, the executive board will meet for a strategy meeting in Osnabrück with a focus on future themes, plans and events.

Joanne Vinke-de Kruijf, Secretary

A letter to members from our new president

The demand for scientific knowledge to inform decision making for a sustainable development is increasing steadily. The Paris Agreement on Climate Change would not have been achieved without the strong efforts of many scientists around the world. Scientific inquiry can and does highlight the need for taking action and point to options for action with long-term benefits. However, the process of uptake and turning knowledge into action is far from trivial. It is both a challenge for decision makers as well as for scientists. Accordingly, considerable efforts are undertaken to improve exchange between science and society: The Future Earth research initiative, many elements of the European Horizon 2020 research and innovation program, international and national research programs on sustainability and the responsibility of research are just a few examples. The experiences with Integrated Assessments which combine independent and critical inquiry with the meeting of societal needs is certainly valuable in this context.

Researchers within the network of The Integrated Assessment Society offer considerable experience in this field. There are many opportunities for us to further advance and share our collective insights. In upcoming conferences, research projects and assessment activities an interdisciplinary organization such as TIAS can share experience and support the development of innovative approaches.

As newly appointed president of TIAS, I intend to support and facilitate activities in this field. I am most grateful to the members of the hitherto board, Claudia Pahl Wostl, Jan Bakkes and Leen Hordijk, the members of the advisory board and certainly not least of all, Caroline van Bers and Joanne Vinke-de Kruijf for their manifold activities. I am looking forward to contributing to advancing IA activities as part of the TIAS team.

I wish all of you happy holidays and a very successful new year 2016!



Klaus Jacob

New Members

TIAS welcomes Mar Violeta Ortega Reig, Jalal Mirnezami and Tuyeni Heita Mwampamba as new TIAS members.

Mar Violeta Ortega Reig is enrolled in the Water and Environmental Engineering doctorate programme at the Polytechnic University of València. Her doctoral research – which she defends this month – focuses on the collective management of irrigation in eastern Spain with specific attention to the introduction of new technologies. Her interests are governance systems, policy development and institutional transformation from the perspective of socio-technical integration and collective management. Mar was one of the IUSF-TIAS Autumn School participants.

Jalal Mirnezami is completing his PhD research in the Department of Water Resources Engineering at the Tarbiat Modares University in Tehran, Iran. His research focuses on assessing the socio-ecological resilience of a groundwater system in Iran. In doing so, he focuses on the governance of groundwater. As water governance is a topic that does not receive much attention in Iran, Jalal was keen to participate in our recent IUSF-TIAS Autumn School.

Tuyeni Heita Mwampamba is working as associate research professor with the Centre of Ecosystem Research (CIEco) at the National Autonomous University of Mexico in Mexico City. Her current research focuses on the social and ecological implications of forest management by communities with a focus on Mexico and Tanzania (her home country). She obtained her doctoral degree in Ecology from the University of California at Davis, USA. She also worked as an environmental consultant in Tanzania where she obtained a lot of practical experience with the application of methodologies for rural planning and social impact assessment. Since its establishment in 2014, Tuyeni has been an active member of the TIAS working group on social impact assessment.

Training the next generation of water governance scholars

By Paula Hanasz - Crawford School of Public Policy, Australian National University

Water governance is an emerging field of inquiry, and as such there is no one commonly accepted methodology for how best to research water governance issues. In an attempt to showcase some available methodologies and to discuss the merits of each, an autumn school was held from October 28th to November 5th in the town of Jülich, Germany. The ten-day school on the ‘Concepts, frameworks and methods for the comparative analysis of water governance’ was organised by the Institute of Environmental Systems Research and The Integrated Assessment Society with funding from the Volkswagen Foundation.



Twenty-three PhD and post-doctoral researchers from around the world were invited to attend with full sponsorship for their participation. The participants represented more than a dozen countries from developed and emerging economies.

The research of the participants also represented an interesting and diverse array of water governance issues including, for example, urban water management, water justice, climate change adaptation in the agricultural sector, public participation in multi-scale governance, greenhouse gas emissions from reservoirs, financial structures of municipal water management, groundwater conservation, environmental provisions in inter-national water law, and transboundary conflict and cooperation. Needless to say, this allowed for some stimulating and constructive discussions during the sessions – and well into the evenings after the day's official program was over!

The program was both interesting and comprehensive. Sessions included everything from the philosophy of science to the design and use of databases for comparative water governance research; from property rights theory to the practice of managing complex socio-technical and socio-ecological systems; from frameworks for data collection and analysis to science-policy communication. The presenters too were from an eclectic mix of disciplinary backgrounds including, among others, ecology, engineering, law, development economics and international relations. It was, thus, a truly interdisciplinary school.



Photo: Katharina Butke ©

The sleepy but picturesque town of Jülich (between Aachen and Cologne in western Germany) provided a beautiful setting for the Autumn School, and on the third day participants were taken to see a local river restoration project. The Rur River was transformed several hundred years ago into a straight, fast-flowing canal – perfect for transporting goods, but not conducive to high levels of biodiversity and other ecosystem services. Now, thanks to long-term collaboration among several administrative regions, water authorities and local communities, parts of the river are evolving into a more natural state as wetland habitats for spawning fish, birds, and, during the summer, picnickers. Seeing first-hand what good water governance can achieve in practice was an inspiring complement to the theory of good water governance that the participants learned about and discussed during the Autumn School.

Follow up to the Autumn School

By all accounts, the Autumn School was highly successful, in no small part a result of the highly enthusiastic participants of the event. The participants have launched a mailing list for exchange on water governance-related research and events (to join, please send an e-mail to info@tias-web.info). This is an opportunity to further engage the participants and other early-career researchers in TIAS by, for example, establishing a mentoring programme that connects senior and early career researchers. In addition, a webinar, conference, workshop or networking event will be organised to bring together these and other water governance researchers.

Joanne Vinke-de Kruijf, Secretary

Social Impact Assessment Working Group

The pre-proposal on Social Impact Assessment (SIA) - resilience and climate change in Africa and Asia, submitted to the Rockefeller Foundation by the TIAS working group on SIA was not successful. As a next step the group is planning to present its ideas to the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), which has expressed interest in the overall concept.

TIAS Webinars in Early 2016: Implementing SDGs and Knowledge Co-production

The two TIAS webinars originally planned for November by members of our advisory board were postponed until the new year. Stay tuned for the dates which will be announced by mid-January. In the meantime planning has been ongoing and summary of the events are as follows:

Webinar I: Beyond SDG indicators: Exploring the role of Integrated Assessment in implementing the Sustainable Development Goals. Organised and chaired by Laszlo Pinter, Central European University and International Institute for Sustainable Development.

Part 1:

From planning to monitoring and review: An institutional perspective, Marc Levy, Earth Institute, Columbia University

Applying integrated assessment models to SDG planning, Enrico Giovannini, Rome University (Former Minister of Labour and Social Policy, Italy)

The need and role of strategic analysis and assessment in SDG implementation planning, David O'Connor, World Resources Institute (until 2015 with UN DESA).

Part 2:

Applying integrated assessment models to SDG planning, Paul Lucas, Netherlands Environmental Assessment Agency

Use of CGE models in evaluating SDG tradeoffs, Marco Sanchez-Cantillo, United Nations Department of Economic and Social Affairs (UN DESA)

Threshold 21 Model, Matteo Pedercini, Millennium Institute

Webinar II: Dialogues on Knowledge Co-production.

Organised and hosted by Marcela Brugnach, Water Management Group, Civil Engineering, University of Twente. Featuring an interview with Silke Beck, Helmholtz Centre for Environmental Research, Germany.



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New Publications

Richard A. Rosen. 2016. **Is the IPCC's 5th Assessment a Denier of Possible Macroeconomic Benefits from Mitigating Climate Change?** *Climate Change Economics*, Vol. 7, No. 1 (2016). DOI: 10.1142/S2010007816400030

Tom van der Voorn, Claudia Pahl-Wostl and Marjolijn Haasnoot. 2015. **Envisioning robust climate change adaptation futures for coastal regions: a comparative evaluation of cases in three continents.** Downloadable from: <http://link.springer.com/article/10.1007%2Fs11027-015-9686-4>

Nina Weitz, Åsa Persson, Måns Nilsson and Sandra Tenggren. 2015. **Sustainable Development Goals for Sweden: Insights on setting a National Agenda.** Downloadable from: <http://www.sei-international.org/mediamanager/documents/Publications/SEI-WP-2015-10-SDG-Sweden.pdf>

Expert Group "Follow-up to Rio+20, notably the SDGs". 2015. **The role of science, technology and innovation policies to foster the implementation of the Sustainable Development Goals (SDGs).** More information: <http://bookshop.europa.eu/en/>

Erik Gawel, Klass Korte and Kerstin Tews. 2015. **Distributional Challenges of Sustainability Policies—The Case of the German Energy Transition.** In: *Sustainability*, December 2015, Volume 7(12), pp.16599-16615.

Gilbert E. Metcalf, James Stock. 2015. **The Role of Integrated Assessment Models in Climate Policy: A User's Guide and Assessment.** Discussion Paper 2015-68, Harvard Project on Climate Agreements, Belfer Center for Science and International Affairs, Harvard Kennedy School



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TIAS Membership fees:

Individuals: € 50 / US\$ 65 annually
Students: € 15 / US\$ 20 annually
Institutions: € 200 / US\$ 250 annually

Events

3-4 March 2016, **New Currents in Science: The Challenges of Quality** in Ispra, Italy (and second meeting of the Post-normal Science community and network)

This workshop will consider current challenges to quality assurance in science and their effects on the trustworthiness of science, as knowledge, in applications and in policy. The challenges originate from the previous transformation from community-based 'little' science to industrial-scale 'big' science, which had effects on research-incentives and thus commitment and morale. The workshop will review of these new tendencies, promote communication among them, and explore how the insights of Post-Normal Science can contribute to their understanding and the way forward. **Abstracts** (maximum 150 words) can be sent by **15 Jan.** to: pns2016@jrc.ec.europa.eu. More information: <https://ec.europa.eu/jrc/en/event/workshop/challenges-quality>

10-13 May 2016. **Adaptation Futures 2016.** 4th biennial conference of PROVIA (Global Programme of Research on Climate Change Vulnerability, Impacts and Adaptation). Rotterdam, NL. Early bird registration until 15 March 2016. More information: www.adaptationfutures2016.org

23-24 May 2016, **Transformative Global Climate Governance "après Paris** in Berlin, Germany.

The conference provides a timely space for interdisciplinary transformation research that builds on institutionalist scholarship, social and cultural sciences, policy analysis, political philosophy as well as political economy approaches to climate governance. It seeks to facilitate exchange and to enhance transformative literacy. More information: <http://www.berlinconference.org/2016/>

7-9 September 2016. **Sixth International Conference on Building Resilience** in Auckland, New Zealand in conjunction with Massey University, NZ; Auckland University; University of Huddersfield, UK and UNISDR. More information: <http://buildresilience2016.nz/>

17-20 October 2016. **Habitat III: United Nations Conference on Housing and Sustainable Urban Development** in Quito, Ecuador. The conference offers Member States an opportunity to discuss a New Urban Agenda that will focus on policies and strategies that can result in effectively harnessing the power and forces behind urbanization. More information: <http://unhabitat.org/habitat-iii-conference/>

30 Aug. - 01 Sept. 2017. **Transformations 2017: Transformations in Practice.** Centre for Environmental Change and Human Resilience. Univ. of Dundee, Scotland, UK. Transformations 2017 is the third in a biennial series of international interdisciplinary conferences that focuses on transformations towards sustainability: addressing contemporary challenges and creating conditions for enhancing people's wellbeing, today and in the future, while strengthening the Earth's support system. A call for abstracts will be made in May 2016.



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