

## INTRODUCTION

Environmental Assessment (EA, including both environmental impact assessment [EIA] of projects and strategic environmental assessment [SEA] of policies, plans and programmes) is an internationally applied — *ex-ante* — decision support instrument aiming at reducing, and, if possible, avoiding the negative environmental impacts of actions before they occur and enhancing positive environmental and other outcomes. It was first legally required in the USA based on the National Environmental Policy Act of 1969. Literally all countries now have related experiences, either based on legal requirements, or based on provisions by development banks and organisations, including the World Bank, the Asian Development Bank, the Inter-American Development Bank and others (Fischer and Nadeem, 2014).

The *Journal of Environmental Assessment Policy and Management (JEAPM)* is one of the three leading international English language journals for Strategic Environmental Assessment (SEA) (Fischer and Onyango, 2012) and EIA (Fischer and Noble, 2015), next to the journals *EIA Review* and *Impact Assessment and Project Appraisal (IAPA)*. Now in its 16th year of existence (with a total of 341 published documents appearing on the citation database ‘scopus’ until 2014), it is the youngest of these three, with *EIA Review* having been published for over 41 years (with 1,346 published documents on ‘scopus’) and *IAPA* for over 33 years (until 1997 as two journals; *Project Appraisal* and *Impact Assessment*; with 738 published documents on ‘scopus’).

This publication presents a selection of papers from a total of 22 issues of *JEAPM* over a period of five and a half years, from mid-2009 (the year I took over as the editor-in-chief) to 2014. Fourteen of the 145 papers (next to 16 book reviews and 22 editorials) that have been published since then have been picked, mainly based on their key relevance for the EA topic. Seven of the papers are taken from the seven special issues published since mid-2009, that included ‘SEA in China’, ‘SEA as a tool to contribute to high level policy objectives’, ‘Spatial data and Geographic Information Systems (GIS) as support tools for EA’,

‘25 years of the European EIA Directive’, ‘EA in the context of renewable energy deployment’, ‘SEA in Latin America’ and ‘Disaster and risk management: the role of EA’.

Overall, since mid-2009 the journal has seen a good mix of papers, focusing on different world regions and topics. About 40 papers focused on practices in Europe, 30 on North America, 18 on Asia, 15 on South America, 10 on Africa and 7 on Australia and New Zealand. One paper also focused on Antarctica. Nearly 50 papers focused on SEA-related aspects and 25 on aspects revolving around EIA. Another 50 papers dealt with other issues and topics, including wider environmental management as well as other tools, such as life-cycle assessment (LCA), cost-benefit analysis (CBA), health impact assessment (HIA) and risk assessment.

Next to the seven papers that represent the topics of the special issues, the other seven papers included in this publication have various foci. These range from the concept of ‘policy windows with regards to SEA’, from ‘EIA theory’, ‘the role of change agents in SEA’, the ‘communication of causality in EIA’, the ‘preparedness for offshore hydrocarbon energy development in the absence of SEA’, ‘knowledge management and EA’, to ‘environmental assessment and management related higher education’.

### **Summary of Contributions**

The first contribution is by Kin-Che Lam, Yongqin David Chen and Jing Wu (all Chinese University of Hong Kong) and is taken from the first special issue of any international English language journal to deal specifically with SEA in China (edited jointly by Thomas B. Fischer and Xu He; Nankai University) in 2009. The authors discuss opportunities, issues and challenges of SEA in China. They do so by looking at progress, emerging issues and problems, based on the Chinese and wider international literature, as well as on case studies and other sources. As an important conclusion, the authors suggest that for the time being a plan-EIA approach may be the most appropriate form of SEA in China. Overall, the authors underline the important role SEA may play in “fostering a sustainable and harmonious society”.

Next, in their 2010 publication, the Canadian authors Denis Kirchhoff and Dan McCarthy (both University of Waterloo, Ontario), Debbe D. Crandall (Save the Oak Ridges Moraine Coalition), Laura McDowell (Regional Municipality of York, Ontario) and Graham Whitelaw (Queen’s University, Ontario) explore the concept of a policy window as a driver of governmental agenda setting. In this context, they explore SEA-type applications at the municipal level in the regional municipality of York, Ontario. Looking at the development of problem, political and policy streams, they describe how a window of opportunity for implementation

of SEA-type practices emerge, leading to policy change in the York region. Taking the example of a trunk sewer project in 2002/2003, they suggest that of particular importance for a policy window to open are a “focusing event” and a “resulting crisis”, moving citizens and later the municipality to change.

In his 2010 paper, Joe Weston (at the time of publishing, Oxford Brookes University, UK) presents the EA community with some thought provoking — and controversial — suggestions, reflecting on the development of EIA theory. Most importantly, he suggests that “all the theories [have failed] to adequately explain or even justify EIA”. Personally, whilst I do agree with some of his observations on EIA theory, I wouldn’t fully sign up to the author’s overall conclusions that “EIA fails in both, its procedural role of influencing environmental decision making and its substantive role of changing social values” and that “it is perhaps time that we stop searching for theories to defend it and start campaigning for something radically different”.

Richard P. Eales and William R. Sheate (both Collingwood Environmental Planning, UK) next discuss whether SEA and Sustainability Appraisal tools in the UK have helped to deliver more sustainable development in the 2011 special issue on ‘SEA as a tool to contribute to high level policy objectives’ (guest-edited by Elsa João and Anna McLauchlan; both University of Strathclyde, UK). The authors look at three national policy level assessments in the UK that took place in 2008 and 2009. As one poor area of performance they identify an apparent “blind faith in mitigation”, where little evidence is provided about whether mitigation measures will be delivered or what will be done to check that they will be successful. They argue that the current performance by the UK Government in implementing the SEA Directive for national level strategic actions is far from exemplary, claiming that the reasons include the trust in mitigation, and also a poor consideration of alternatives and the weak conception of sustainability adopted. The authors believe that the main problem with SEA implementation is the common perception that having to undertake an assessment and comply with the SEA Directive is a hurdle, rather than a useful mechanism for helping to deliver better and more sustainable policy making.

In another paper from 2011, Lone Kørnøv, Ivar Lyhne, Sanne Vammen Larsen and Anne M. Hansen (all Aalborg University, Denmark) report on how change agents in Strategic Environmental Assessment (SEA) research and practice can steer action in support of sustainability. They base their suggestions on three cases, where PhD researchers were working on their projects in close cooperation with an organisation outside the university. These include the company Energinet.dk on national energy infrastructure development in Denmark; the Greenlandic Self Government on planning and assessing an aluminium smelter in Greenland; and

the Danish consultancy Rambøll on river basin management plan SEA preparation. The authors conclude that a researcher, who has high autonomy and interdependence, can function as a change agent for more environmentally sustainable decisions.

The next paper from 2012 is by the guest editor of another special issue on ‘Spatial Data and Geographic Information Systems (GIS) as Support Tools for Environmental Assessment’, Ainhoa González Del Campo (Trinity College Dublin, Ireland). In her contribution, she provides a review of critical considerations for effective spatial data management and GIS implementation in SEA/EIA, discussing current issues affecting spatial dataset management and use. These include: availability, accessibility, scale, completeness and metadata. Similarly, commonly applied GIS methods for impact assessment and public consultation are described and existing constraints to their application examined. Although many of the issues outlined in this paper are apparent and could be anticipated in applied-GIS, further insights are obtained from their contextualisation to environmental assessment research and practice. Subsequently, González Del Campo formulates recommendations for optimising the contribution of spatial data to environmental planning, and establishing future research and practice needs to enhance GIS use in SEA and EIA.

Anastassios Perdicoúlis (University of Trás-os-Montes e Alto Douro, Portugal) and John Glasson (Oxford Brookes University, UK) next look at the explanation of causal relationships in EIA in their 2012 paper ‘How clearly causality is communicated in EIA’. Based on an evaluation of 10 US and UK environmental statements, using text samples, they find that associated information was either uncertain or entirely absent. They argue that if EIA is indeed a diagnostic tool, this situation needs to be addressed urgently. They go on to suggest that diagrammatic presentation of causality would be particularly useful for clear communication. They conclude that “authors, reviewers, and even decision makers may need to re-consider their commitment to causal thinking, in a community-wide call for exchanging ideas from the various points of view”.

In a 2012 special issue dedicated to the 25th anniversary of the implementation of the EIA Directive (85/337/EEC) in the EU (edited by Thomas B. Fischer; University of Liverpool, UK — UL; Hens Runhaar; University of Utrecht, the Netherlands — UU), Jos Arts (University of Groningen, the Netherlands), Urmila Jha-Thakur (UL), Frank Van Laerhoven (UU), Peter P. J. Driessen (UU) and Vincent Onyango (UL), reflect on the extent to which EIA is effectively addressed in terms of contributing to environmental awareness and environmental protection in the Netherlands and the UK. The authors suggest that although in the UK, EIA seems to contribute to a slightly greater extent to the environmental awareness of

proponents and competent authorities than in the Netherlands, the overall impact on the environmental performance of projects is very similar. They conclude that EIA still performs well as an instrument for raising environmental awareness, but not for environmental optimisation.

In 2013, Courtney Fidler and Bram F. Noble (both University of Saskatchewan, Canada) reflect on Canada's preparedness for offshore Arctic hydrocarbon energy development in the absence of Regional Strategic Environmental Assessment (R-SEA). Whilst the authors identify a range of implementation challenges regarding, for example, issues of governance and the nature and scope of the alternatives to be considered in assessment, they conclude that, "R-SEA offers a much needed framework to begin addressing stakeholder concerns about future offshore development in the region."

The contribution by Kedar Uttam, Berit Balfors, Charlotta Faith-Ell and Ulla Mörtberg (all KTH Royal Institute of Technology, Stockholm, Sweden) is part of a further special issue on 'Environmental Assessment in the context of renewable energy deployment' in 2013, focusing on the energy efficiency and green procurement in the building sector. Green procurement involves services, products and also energy that meet environmental requirements. Their paper focuses on the interlinkage between environmental impact and life cycle-based assessments. Interview results with municipal and construction sector stakeholders allowed the authors to identify manifold perspectives on how best to further explore this EA-LCA interlinkage and partnerships to strengthen integration.

Also in 2013, Luis E. Sánchez (University of Sao Paulo, Brazil) and Pierre André (École Polytechnique de Montréal, Canada) report on a knowledge management (KM) survey in Quebec's Environmental Assessment Department and Public Hearings Office. The authors argue that, "EIA is a knowledge intensive activity that would benefit from a highly structured approach to KM." The key aim of their paper is to identify the key elements of KM in the two institutions mentioned above. They find that initiatives for managing knowledge had been adopted with a main emphasis on compiling previous findings, opinions and recommendations from enquiries and reports. The authors conclude that whilst KM was successful in retention and transfer of internal knowledge users, there "is as yet an underexplored learning potential in the follow-up activities after project approval".

Thomas B. Fischer and Urmila Jha-Thakur (both University of Liverpool, UK) go on to describe the baseline, trends, challenges and opportunities of environmental assessment and management (EAM) related master level degree programmes in the EU in 2013. Their findings are in parts based on the findings of the European Erasmus Mundus T<sub>wo</sub>EA-M project ([www.twoeam-eu.net](http://www.twoeam-eu.net)). The authors argue that due to the absence of a clear disciplinary home, understanding

of EAM-related higher education degree programmes has remained poor. Furthermore, they stress that teaching of EAM is influenced by how it is practised and therefore differs from country to country. Twenty-three of the then 27 EU member states were found to offer related programmes in 106 institutions with significant differences between them in terms of, for example, disciplinary home and focus, length of study and aspects covered, tuition and geographical focus.

In another special issue on ‘environmental assessment in Latin America’ (edited by Marcelo Montaña and Thomas B Fischer), Marcelo Montaña, Priscila Oppermann, Anne Caroline Malvestio, and Marcelo Pereira Souza (all University of Sao Paulo, Brazil) reflect on the current state of the SEA system in Brazil. They do so by contrasting it with systems from developed and developing countries, including England, Portugal and Spain, on the one hand, and Angola, Mexico, Mozambique and South Africa on the other. They establish a number of important differences between these eight countries, spanning from practical SEA experiences, over legal requirements, guidelines and an overall supportive culture towards SEA to the role of academia. Based on their evaluation, Brazil is currently in between countries with well developed and with developing systems. Whilst there have been some positive experiences, there are also a range of remaining challenges for the effective application of the instrument in the country.

The last contribution to a special issue on ‘disaster and risk management: the role of environmental assessment’ is provided by Steve Swain (Environment Agency of England and Wales) and Riki Therivel (Levett-Therivel, UK), describing potential environmental impacts of civil emergency plans, discussing implications of their exemption from SEA. In this context, for a number of emergency plans, the authors identify and categorise mitigation measures, determining whether these could cause significant environmental impacts and whether SEA would be useful in potentially helping to avoid them. The authors conclude that there are indeed a range of possible impacts. These “could affect the marine environment, surface and ground water quality, localised habitat, historical or cultural features”. Furthermore, they could also “have resource use and wider carbon and energy use implications”. Whilst, in principle, SEA could help address those impacts, the authors suggest that further study is needed in order to be able to provide for some more definite recommendations.

## References

- Fischer, TB and B Noble (2015). Impact Assessment Research — achievements, gaps and future directions. *Journal of Environmental Assessment Policy and Management*, 17(1), 1501001.

- Fischer, TB and O Nadeem (2014). Environmental Impact Assessment Course Curriculum for Higher Education Institutions in Pakistan, IUCN, Pakistan. [http://cmsdata.iucn.org/downloads/niap\\_eia\\_curriculum\\_for\\_hei.pdf](http://cmsdata.iucn.org/downloads/niap_eia_curriculum_for_hei.pdf).
- Fischer, TB and V Onyango (2012). SEA related research projects and journal articles: an overview of the past 20 years. *Impact Assessment and Project Appraisal*, 30(4), 253–263.