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Strengthening impact assessment: a call for integration and focus

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ABSTRACT

We suggest that the impact assessment community has lost its way based on our observation that impact assessment is under attack because of a perceived lack of efficiency. Specifically, we contend that the proliferation of different impact assessment types creates separate silos of expertise and feeds arguments for not only a lack of efficiency but also a lack of effectiveness of the process through excessive specialisation and a lack of interdisciplinary practice. We propose that the solution is a return to the basics of impact assessment with a call for increased integration around the goal of sustainable development, and focus through better scoping. We rehearse and rebut counter arguments covering silo-based expertise, advocacy, democracy, sustainability understanding and communication. We call on the impact assessment community to rise to the challenge of increasing integration and focus, and to engage in the debate about the means of strengthening impact assessment.

Key words: integration; focus; scoping; inter-disciplinarity; silo-based expertise; proliferation

1. Introduction

At a time of economic obsession and recession in many countries around the world, we suggest that introspection about the future of impact assessment is warranted. The recent special issue of *Impact Assessment and Project Appraisal* (March 2012) devoted to the state of the art of impact assessment highlighted that the current global recession appears to be a significant threat to practice (Bond and Pope 2012). Governments are cutting back on impact assessment, as Gibson's (2012) account of changes to federal impact assessment processes in Canada attest, while in Australia the provocatively negative phrasing of 'cutting green tape' (Middle et al. 2013) is used to rationalise attacks on long-standing impact assessment processes. In the face of these very real external threats to the only truly international instrument for sustainable development (Morgan 2012), we believe that it is time for the impact assessment community to unite in a campaign to restore faith in the profession.

Our thesis in this paper is that the proliferation of impact assessment types that has emerged over the past several decades has generated diversity at the expense of demonstrated value; is creating silos and confusion amongst regulators, stakeholders and even impact assessment practitioners; and is potentially resulting in the core principles and foundations of impact assessment being undermined, or at least ignored. We argue that the impact assessment community should adopt a strategy of integration and focus within impact assessment practice, not to lose the richness of perspectives that now prevail, nor to suggest that impact assessment is or should become in any way standardised, but to align our practices and focus our efforts on what matters. And what we believe

matters is achieving progress towards sustainable development. Our views are based on personal reflection derived from our professional experiences in the countries and continents in which we work, and we support our case with examples or evidence drawn from the published literature wherever possible.

Before articulating what we believe is needed with respect to integration and focus, we return briefly to the basics of impact assessment which provide the foundation for our later points. We then discuss the problems we see with the excessive proliferation of impact assessment types, and why we believe this is making impact assessment vulnerable to cut backs in the name of 'streamlining' and 'efficiency'. We then offer an alternative approach to streamlining impact assessment, which aims for effectiveness as well as efficiency and is driven by the impact assessment community rather than by external forces. Integration and focus are at the heart of our argument. Finally, we present and rebut some potential counter-arguments to our views before inviting critical responses to our thesis in the conclusion section.

2. Going back to basics: what is impact assessment all about?

At its heart, impact assessment is an unpretentious tool: fundamentally, it generates information about the potential effects of a development to allow decision-makers to "think before (they) act" (Morrison-Saunders 2011: 2). Much has been written on the fundamentals of impact assessment—as all types of impact assessment share common purpose and principles—with perhaps the most conveniently accessible materials being provided by the International Association for Impact Assessment (IAIA) (<http://www.iaia.org/publications-resources/downloadable-publications.aspx>).

From these, we find two key sources to suffice to establish the fundamentals of impact assessment. Firstly we return to the origins of impact assessment and specifically to s.102(2) of the *National Environmental Policy Act (NEPA) 1969* (Senate and House of Representatives of the USA, 1969), the world's first impact assessment legislation, which stated that all agencies of the federal government shall:

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decision-making which may have an impact on man's environment...

and

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on-

- (i) The environmental impact of the proposed action,*
- (ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,*
- (iii) Alternatives to the proposed action,*
- (iv) The relationship between local short-term uses of man's [sic] environment and the maintenance and enhancement of long-term productivity, and*
- (v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.*

Our second source is the IAIA Principles of Environmental Impact Assessment Best Practice (IAIA & IEA 1999), which establish that impact assessment should be: purposive, rigorous, practical, relevant, cost-effective, efficient, focused, adaptive, participative, interdisciplinary, credible, integrated, transparent and systematic. These principles are clearly inter-related; for example an

impact assessment process that is rigorous and systematic is more likely to be credible, while a focused and efficient process is more likely to also be cost-effective. In view of these core and common principles, we contend that the field of impact assessment is much more homogeneous than the proliferation of different types would suggest. We contend that the impact assessment community should regroup around these fundamentals, to deliver integrated efforts based on focused scoping, whether in the context of a project, or a higher-order policy, plan, programme.

Before exploring these concepts in more detail and proposing what we believe needs to be done, we first address the problems with proliferation of impact assessment types.

3. Problems with proliferation of impact assessment types

In the 44 years of impact assessment practice since NEPA came into force, there has been a proliferation of distinct (and not so distinct) types of impact assessment which Pope (et al. 2013) suggest has now reached epic proportions. Box 1 presents over forty different specialist types of impact assessment that we have been able to readily identify in the literature or have been discussed at recent IAIA conferences. They represent evolution of impact assessment in various broad ways such as an increased focus on specific issues (e.g. SIA, HIA, health equity impact assessment); expansion in many jurisdictions from a project focus to strategic and regulatory decision-making (e.g. SEA, policy assessment, regulatory impact assessment); application to increasing numbers of specific decision contexts (e.g. post-disaster impact assessment); and reflecting specific analytical approaches (e.g. ecosystem services assessment). There are likely to be many more we have overlooked, or perhaps which have been defined by prospective advocates but which have never subsequently entered the mainstream. The list does not include the range of methods or tools that might be utilised in any given impact assessment process that also makes use of the term 'assessment' or similar in its name such as: cost-benefit analysis, life cycle assessment, or multi-criteria assessment (see Canter 1996 for a list of some of these).

analytical strategic environmental assessment	integrated environmental assessment
biodiversity impact assessment	integrated impact assessment
climate change impact assessment	language impact assessment
community based environmental assessment	metabolic impact assessment
cultural (heritage) impact assessment	participatory impact assessment
cumulative effects assessment	policy assessment
cumulative effects and management	policy appraisal
cumulative impact analysis	post-disaster impact assessment
disaster risk assessment	poverty and social impact assessment
ecological impact assessment	regional environmental assessment
economic assessment	regional strategic environmental assessment
ecosystem services assessment	regulatory impact assessment
environmental assessment	risk assessment
environmental impact assessment	sectoral impact assessment
environmental, social and health impact assessment	social impact assessment
equity impact assessment	strategic environmental assessment
gender impact assessment	sustainability appraisal
health equity impact assessment	sustainability assessment
health impact assessment	technology impact assessment
human rights impact assessment	territorial impact assessment
impact assessment	tourism impact assessment
indigenous impact assessment	vulnerability assessment
integrated assessment	water impact assessment

Box 1. A proliferation of impact assessment types

It is clear from the sections of NEPA discussed previously that NEPA always took a broad, holistic perspective on what the scope of an impact assessment process should be, a point reiterated more recently with respect to SEA (e.g. Wallington et al. 2007; Bina 2007) or sustainable development (Bond et al. 2010). There was originally apparently no need for multiple impact assessment types to cover the ground, so what happened? While there is no clear answer to this rhetorical question, it is clear that the impact assessment community has collectively worked hard to incorporate a wide range of disciplines into impact assessment to reflect the full range of the sustainable development agenda. We can also hypothesise that the hierarchical division of impact assessment has arisen despite the lack of any such distinction being made in NEPA, potentially because of the different governance arrangements that exist at different tiers of decision-making; for example, EIA is typically conducted by developers, SEA by local governments, policy assessments by national governments and so on. This particular division is now reflected in legislation around the world, the European Union being one example, where separate Directives exist for EIA and SEA. Canada is another example, where EIA legislation and SEA guidance were formally separated in the mid-1990s and remain so today. Furthermore, we suggest that in our efforts to incorporate, we have lost sight of the fact that our practices are firmly based in the same foundations

Sheate (2009: 1) offers another perspective suggesting that perhaps the impact assessment community is more inclined to invent new tools rather than to modify existing ones for reasons that have little to do with effectiveness or efficacy:

One can characterise the debate about what are the most appropriate tools for delivering particular sustainability issues as the "The Tool-Users Dilemma" - whether to use a particular tool as originally designed; whether to adapt it; whether to connect it with other tools, techniques or approaches; or whether to develop a new tool (van der Vorst et al. 1999). Often the latter is seen as far more attractive (one can give it a new name and try to claim some credit for it!), but all too often new tools are just re-workings of existing tools and the coining of a fancy new name.

So, what does this proliferation mean for impact assessment, beyond a bewildering choice of concurrent sessions from which to choose at the annual conference? Fundamentally, there is a clear tension, or even conflict, between increasing specialisation and the advancement of sustainable development, the assumed goal of impact assessment (e.g. Sheate 2009), which calls for integration above all else (Gibson et al. 2005). Sustainability is a passion and a direction the impact assessment community seems to share and that many believe serves as a beacon to next generation impact assessment practice (Gibson and Hanna 2009; Bond et al. 2012). However, increasing specialisation is a dangerous road to choose in the face of this stated goal. The proliferation of specialist practices has made it increasingly difficult to assimilate and integrate the evidence in a single decision-making process in a way that is meaningful to decision-makers and which speaks to sustainable development. As Sheate (2009: 3-4) noted in his account of 17 assessment processes and tools:

Each discipline and tool also has its own extensive literature and it is unreasonable to expect individuals to be fully abreast of the literatures of diverse tools and disciplines. Even where experts are co-located in interdisciplinary departments or centres the pressure of publication and other research performance metrics makes such interdisciplinary work far less advantageous for individual career progression. Too often this same disjunction is also found in professional practice, policy making and consultancy.

In other words, a key problem with proliferation is that the impact assessment community is dividing itself into ever-smaller slices, with associated risks of isolationism and confusion not only on the part of regulators but amongst the impact assessment community itself (Fuggle 2005; Retief 2010). The establishment and entrenchment of silos serves to emphasise how we differ and not

what we have in common. It is of course relatively easy to become a specialist and to conduct detailed and lengthy studies in just one area of expertise. It is far more challenging to integrate with other disciplines, to present a view of the world that is holistic and focused, and as the quote from Sheate (2009) attests, there is less professional incentive to do so. This means that opportunities for inter-disciplinarity are being lost. In an impact assessment context, the result of so much specialisation is a proliferation of separate studies provided to decision-makers; multiple assessments leading to duplication of effort and inefficiency in conducting assessments; lack of integration and lack of focus, to name just a few (e.g. McCarthy 2012; Glasson et al. 2012).

These outcomes not only fail to promote sustainable development but succeed in frustrating those who seek to engage with impact assessment, including community members and other stakeholders, and of course the regulators and proponents for and by whom these documents are usually written. Stakeholders are complaining that they do not have the time or resources to read, assimilate and prepare submissions on impact assessment reports (Cashmore et al., 2007), so that an important source of critical input to the process is minimised or lost altogether. Human psychology is such that in the face of complexity, simplified decision-making and problem resolution strategies are favoured (e.g. Retief et al. 2013). It is therefore not surprising to us that governments would seek to cut back on impact assessment processes in the face of the bewildering and unnecessary complexity of impact assessment that we, as the impact assessment community have promulgated.

Fortunately, there are signs that the danger of proliferation of impact assessment types has been recognised, as annual IAIA conferences now regularly include sessions exploring the links between different fields of specialisation¹, as well as sessions dealing with the so-called 'fundamentals of impact assessment' such as significance, screening, scoping and alternatives that are common to all. However, the need to address the problem of proliferation has become pressing as governments are showing signs of interest in and, in some cases are actively pursuing, streamlining of regulatory impact assessment processes (Morgan 2012). This is a genuine threat to practice (Bond and Pope 2012; Bond et al. submitted), since these streamlining efforts tend to focus on efficiency (as perceived by developers) rather than effectiveness (of protecting the environment and promoting sustainable development). Some examples of measures taken include: adopting highly restrictive screening practices in Canada (e.g. Gibson 2012); restricting the time frames within which public participation should occur in impact assessment in South Africa; removing public participation opportunities from sustainability appraisal in England; and removal of the opportunity for people to appeal the level of assessment decision in Western Australia (Bond et al. submitted; Middle et al., 2013). We believe that these changes are for the worse and that they undermine the core principles of impact assessment that we presented earlier. In response we suggest it is time for practitioners to unite and advance effective approaches to impact assessment that are integrated and focused on what is really important in each decision. We discuss each of these aspects below.

4. Towards integration and focus

Somewhat ironically, given that the perception that a focus on the goal of sustainable development may have contributed to the splintering of the profession in the first place, it seems to us that the solution to the problem is to take an integrated approach which requires an emphasis in particular during the scoping stage to determine which of the plethora of sustainability issues that could be considered in each case really matter (Kennedy and Ross 1992). The need for better integration is neatly encapsulated in the words of Morgan (2012:7) who argues that:

¹ E.g. Ecosystem services for sustainable socio-economic development (IAIA11 Puebla); Health in social impact assessment (IAIA13 Calgary and previous conferences); Integrating health in impact assessments: Opportunities not be missed (IAIA13 Calgary).

The broader challenge for the (IA) community...will be to ensure all forms of impact assessment contribute to the effective assessment of proposals, based on well-understood principles shared across the field of impact assessment, and conducted in an integrated and complementary way.

By integration, we mean that the various dimensions of sustainable development should be addressed in impact assessment in a way that acknowledges the linkages and inter-relationships between them. We believe that this is best achieved through an inter-disciplinary approach in which the specialists involved work closely together, informing each other's work and developing a holistic collective understanding of the potential impacts of the proposal with respect to sustainable development goals. But this can only be effective if based upon a focused scoping process, which commences with the goal of sustainable development and then identifies which specific sustainability issues warrant further exploration in any given context, and therefore which specialists should be involved. This is what we mean by focus.

Glasson et al. (2012: 17) make the point that effective scoping is essential in any assessment to determine the appropriate focus of effort across a range of sustainability considerations. They present a cube to conceptualise the environment in three dimensions: components (physical and socio-economic), time (from now into the future for 30 or more years) and spatial scale (local, regional, national, global). When discussing the contribution of impact assessment to sustainable development, Hacking and Guthrie (2008) also employ a cubic diagram with each of the three dimensions according to: *comprehensiveness* of the coverage (i.e. ranging from bio-physical environment only through to all sustainable development themes and thereby corresponding to the 'components' of Glasson et al. 2012); *strategicness* of the focus and scope (i.e. which can be interpreted in terms of both spatial and temporal scales, thereby simultaneously encapsulating the remaining two faces of the Glasson et al. 2012 cube); and *integratedness* of the techniques and themes (i.e. which relates principally to the manner in which impact assessment is carried out, ranging from separate studies for different fields of impact assessment to aligned/connected approaches or through to combined/compared approaches). Arguably then, the Hacking and Guthrie (2008) conceptualisation is also predominately a matter of scoping.

The scoping issues raised by Glasson et al. (2012) and Hacking and Guthrie (2008) alike mesh directly with the foundational conceptualisation of impact assessment in section 102(2) of NEPA presented previously, namely that:

- 'quality of the human environment' and 'natural and social sciences' embraces a comprehensive coverage;
- 'legislation and other major federal actions' embraces any type of human activity (e.g. whether strategic or project-based);
- 'local short-term' and 'long-term productivity' account for all potential spatial and temporal scales; and finally
- 'interdisciplinary approach' and 'integrated use' encourages an integrated approach to impact assessment.

We are therefore arguing for a return to the integrated and focused approach originally called for in NEPA, that eliminates superfluous complexity; speaks in a unified voice to sustainable development; and reflects good impact assessment practice that is purposive, rigorous, practical, relevant, cost-effective, efficient, focused, adaptive, participative, interdisciplinary, credible, integrated, transparent and systematic (IAIA & IEA 1999).

5. Counter-arguments to the defence of impact assessment silos and specialisation

The arguments presented thus far in the paper are made to present a particular case and could be perceived as imbalanced. Many counter-arguments exist to the call for integration and focus, and we provide some of the more obvious ones here, along with some acknowledgement of their merit. For each of these, we present our case that integration and focus still have benefits, but we welcome additional counter-arguments, or indeed additional arguments, to stimulate further discussion directed at strengthening impact assessment.

One of the key criticisms directed at impact assessment is that certain components may be relatively poorly addressed in comparison with others; such criticism probably began with Glasson and Heaney's (1993) arguments that socio-economic impacts were "the poor relations in UK environmental statements", which led to later studies identifying little improvement (for example, Chadwick 2002). Similar arguments have been made over the consideration of cultural heritage impacts (for example, Bond et al. 2004), health impacts (for example, BMA 1998), ecological impacts (for example, Thompson et al. 1997; Wegner et al. 2005), and so on. In fact, given specific sectoral expertise, it seems easy to identify shortfalls in the necessarily brief chapters of an environmental impact statement covering any particular component. We will collectively term these arguments 'silo-based expertise'.

Another well-rehearsed argument stems around the role of impact assessment, which we will term 'advocacy' arguments. A particular issue raised by one of the authors of this paper is the fact that the historical roots of environmental impact assessment lie in the need for environmental advocacy to counter the (usually socio-economic) arguments in favour of development (Morrison-Saunders and Fischer 2006). The issue is that integrated assessments are then trading off socio-economic gains against environmental losses before the decision makers view the application details which are likely to emphasise the same economic gains again. The implication is that specialist forms of impact assessment are needed to ensure certain issues receive due consideration in decision-making.

In a similar vein, 'sustainability understanding' arguments stem from the normative nature of 'sustainable development' and/or 'sustainability' (Bond and Morrison-Saunders 2011). Bond et al. (2010) identified that environmental impact assessment team members had differing notions of the meaning of sustainability and that, even in cases where the agreed goal of environmental impact assessment was sustainable development rather than environmental advocacy, this led to a weak sustainability interpretation predominating (see: Cabeza Gutés 1996) whereby socio-economic gains at the expense of environmental losses are deemed acceptable. The implication is that unity and simplification may preclude adopting a 'strong' sustainability approach in impact assessment, through which mutually reinforcing gains are sought for all sustainability goals.

Rozema et al. (2012) review debates surrounding democracy and science and, whilst acknowledging a move towards more participatory democracy, comment that representative democracy still prevails in most states; this is the basis of 'democracy' arguments. Where there is greater integration of issues in all-encompassing assessments, trade-offs become embedded in the assessment thereby removing such decisions from the domain of the elected representatives who have the political mandate to make such decisions on behalf of affected populations. An example of a situation where the normal democratic process was bypassed occurred in the United Kingdom when the Government introduced the Planning Act in 2008 (United Kingdom Parliament 2008) to reform the decision-making process for major infrastructure projects (Owens and Anwar 2011). This removed primarily energy-related projects from local control to central decision-making by an Infrastructure Planning Commission (IPC) that was appointed rather than elected, leading to complaints and a revision of the decision-making process to include elected representatives through enactment of the Localism Act 2011 (Marshall 2013).

Finally, we highlight arguments on the practical difficulties of ‘communication’ across disciplines. Bond et al. (2010) argue that the interdisciplinary work required for true integration is often misunderstood as multidisciplinary. In the latter case, teams are composed of experts from different disciplines who do not understand each other’s terminology or working practices, and the team is therefore ill equipped to integrate their collective knowledge and understanding. One of the authors observes this is often the case in Canadian panel reviews of controversial projects whereby multiple experts provide silo-based expertise about the predicted impacts of a project yet this expertise is rarely integrated in a way that adds value or offers wisdom to the panel of reviewers rather than simply information. Some examples exist of attempts to use interdisciplinary approaches, for example, in an English sustainability appraisal (e.g., Bond et al., 2011), although these are resource intensive and may be considered impracticable by those funding assessments. So, whilst the implication is that unity and simplification cannot work in the absence of true interdisciplinarity, making this happens remains a challenge.

Our counter to all these arguments reflects the call for a return to basics, supported by focused scoping. ‘Silo-based expertise’ is inevitable, but our argument remains that good scoping will determine the appropriate expertise to involve, and which expertise is superfluous for a particular assessment. We acknowledge that it may take some courage to stand up to the tendency to ‘scope in’ more than is really necessary in any given impact assessment. The ‘advocacy’ arguments reflect the inevitable changes that take place in the political landscape and we would argue that impact assessment has to be flexible enough to adapt to these. The key is to understand the particular context, and to agree at the outset what the goal of the assessment is so that such arguments do not arise later in the process. Such agreement is of course a core task in the initial scoping phase. The same solution can be applied to the ‘sustainability understanding arguments’ – these are inevitable, and any impact assessment process has to be clear on what the interpretation of sustainability is from the outset. As such, transparency is a key principle that needs to be actively and explicitly embraced in individual assessments, not just something that is assumed to be present via, for example, making impact assessment reports publicly available.

Democracy arguments have been around since the early days of impact assessment and mirror some of the debate surrounding the relative merits of qualitative versus quantitative methods whereby there was some concern that quantitative approaches weakened the role of elected decision-makers (e.g. Bisset 1978). Our response would be that it is appropriate for teams of experts to alter design to improve the sustainability of a proposed development before decision makers become involved. It is still a democratic decision as to whether a proposal, or which alternative proposal, should go ahead. The ‘communication’ argument we recognise to be a real issue, but one that already exists in many types of impact assessment. Realistically, we would regard this as an ongoing core challenge of impact assessment in the future; whereby if scoping is properly used to focus the scope appropriately, any appropriately streamlined assessment will likely bring together different disciplines who will need to work together in an interdisciplinary way, but the challenge of how to do this effectively remains.

6. Conclusion - a call to arms for integration and better focus in impact assessment

Is it time for the impact assessment community to reconnect and to stand behind a unified conceptualization of impact assessment? In this paper we have strongly argued that integration and better focus are key to impact assessment vitality in the decades ahead, and that the impact assessment community need to be proactive in streamlining impact assessment in an effective manner given the weaknesses that have arisen due to proliferation of individual specialisations. The current state of practice suggests that we as a community are not sufficiently unified at present, nor clear enough on the common purpose of impact assessment, nor the value-added to decision-makers.

Impact assessment hence faces marginalisation and or even extinction, plainly reflected by talks of streamlining in the name of efficiency, and in some contexts radical changes in legislation.

To be frank, for those who would argue for the need for a separate and detailed specialisation, we would suggest that perhaps you have failed to place your specific issue of interest into the wider sustainability debate. However, we invite others to share their perspectives in response to what has been said in this paper with a view to promote further debate and introspection. Furthermore, although we have put forward a renewed focus on integration and scoping as a possible solution, we also invite more discussion on other potential solutions in facilitating the strengthening of impact assessment. Now is an opportune time to reflect on the question of whether we need to reconnect to one another and again consider our common identity grounded in the basics of impact assessment. How do *you* respond to our 'call to arms' for strengthening impact assessment through integration and better focus on what really matters for sustainable development?

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