Chapter 3

How to Make IAs More Influential

3.1 HIGHLIGHTS

In this chapter, we address how to avoid and ameliorate the tendency of some parties to not participate in IA processes, to circumvent IA requirements and procedures, to not adequately draw upon the IA knowledge base, or to participate in "good faith" in IA requirements or procedures but to have little or no discernible impact on decision making.

- The analysis begins in Section 3.2 with four applied anecdotes. These stories describe applied experiences in which (1) the major parties decide to circumvent the IA process on the grounds that the proposal is too "important," (2) SEA is used as an instrument for enhancing public policy-making influence, (3) various approaches are explored in one jurisdiction (the Netherlands) for making IA more relevant and influential, and (4) the EIA did not address the key environmental issue of whether the proposal should proceed.
- The analysis in Section 3.3 then defines the problem—three negative perspectives that undermine IA's effectiveness.
- In Section 3.4 we explore the legitimacy of the three negative perspectives and present measures to prevent and offset these negative perspectives. This analysis is then extended by establishing a foundation (using concepts, frameworks, and research priorities) for making IA requirements and processes more relevant and influential.
- In Section 3.5 we present an overview of selected characteristics and reforms from the four jurisdictions potentially conducive to and inhibiting of greater IA decision-making influence. We then illustrate how an influential IA process could be expressed at the applied level. We also address process and good practice variations among IA types (SEA, project-level EIA, SA, EcIA, SIA, and HIA).
- In Section 3.6 we address the contemporary challenge of good practice approaches for making IA more influential. Good practices are grouped by criteria at both the regulatory and the applied levels.
- In Section 3.7 we highlight the major insights and lessons derived from the analysis.

3.2 INSIGHTS FROM PRACTICE

3.2.1 What Happens When a Proposal Is Too Important for IA?

A challenge in IA arises related to large projects with national and international economic and environmental implications because many stakeholders often do not believe in or trust that an IA process will truly inform and influence decision making. Why? Senior governments and opposition parties publicly declare their views and preferences at the outset. As a result, proponents lobby governments and sign agreements with affected Aboriginal and other local communities to bring them "on side." Opponents also lobby, often extensively using direct political action—rallies, demonstrations—to put pressure on decision makers and to influence the general public. All sides actively promote their views through the media. In brief, almost all parties conclude that relying only on IA reports, submissions, and review procedures is unlikely to result in the decision they want because such projects are viewed to be bigger or more important than "IA." Thus, how can IA reports and processes become serious components in decision-making environments that are highly charged and polarized?

Two high-profile examples highlight this conundrum. Both are usually characterized as "energy initiatives," but their scope for IA is much broader. The first example is the Keystone XL 2736 km pipeline from Alberta to Oklahoma and then to the Texas Gulf Coast. At full capacity, it will transport up to 830,000 barrels of oil daily. Canadian Foreign Affairs Minister John Baird has stated that the pipeline is "all about jobs and economic growth for Canada," and that the federal government would "continue to be an active supporter of the project." Various leaders and groups in the United States support the proposed pipeline for the same reasons related to jobs and economic development in the United States. In contrast, President Barack Obama stopped the $7.6 billion project in mid-January 2012 because of concerns about negative environmental impacts on the environmentally sensitive Sandhills Ogallala aquifer area in Nebraska. Yet, he also indicated that an alternative route could be proposed by TransCanada, the proponent of the pipeline project, and, by the end of the winter in 2012,

Impact Assessment: Practical Solutions to Recurrent Problems and Contemporary Challenges, Second Edition. David P. Lawrence.

TransCanada had developed a proposal for a 176 km rerouting of the pipeline that it was claimed would "jog around" the Sandhills. Thus, the Keystone XL pipeline brings together interests and concerns about energy, economic development, management of aquatic systems and environmentally sensitive areas, and political positioning in the run up to US Presidential election later in 2012. The behavior and conundrum highlighted in the introduction above both are clearly visible related to this project.

The second example is the Enbridge Northern Gateway proposed pipeline ($5.5 billion, 1177 km twin pipeline) from Edmonton to a super tanker port in Kitimat, BC. The federal government has been a vocal supporter of this pipeline, arguing that it will generate thousands of jobs and bring economic benefits to numerous communities along the pipeline route. The federal government went even further, referring, within a March 2011 report, to environmental groups and aboriginals as "opponents." Indeed, some commentators claimed the federal government had categorized stakeholders into two categories: allies, and adversaries. This interpretation was reinforced by remarks by Natural Resources Minister Joe Oliver, in an open letter to Canadians in early January 2012, when he called opponents "ideological" and opposed to all major projects. In contrast, those expressing opposition to the pipeline pointed to potential for significant negative environmental impacts if there were a pipeline break or if there were a major oil spill in the enclosed sound through which the super tankers would travel to reach Kitimat.

Another dimension is reflected in January 2012 comments by Prime Minister Harper, who stated that environmentalists were funded by foreign money and were trying to hijack the National Energy Board public hearings that had started in mid-January 2012. Others observed that those promoting the Northern Gateway pipeline also had significant financial support from foreign petroleum corporations, and wondered why such foreign support was not also a problem. The federal government never directly responded to the apparent contradiction that some foreign financial support was desirable and acceptable, while other foreign support was not.

A further aspect in the discussions was a view by some that the federal government was using the Northern Gateway project, which will export crude oil to China and other Asian markets, to pressure the American government to approve the Keystone XL pipeline. In such a context, questions emerge about the role and value of impact assessments when the ultimate approving authority has openly declared support for a project and has dismissed groups expressing concerns because they are "ideological."

The Keystone XL and Northern Gateway pipelines highlight ongoing challenges for IA processes. Such projects usually involve the same government actively supporting the project while also being the regulator and approver of it. In such contexts, IA processes are not adequately designed and developed to address such challenges in a credible way. Solutions are not obvious, but resolution will require attention to governance, decision-making arrangements, and regulatory processes. Where is the necessary research and work being done on these matters to allow IA reports and processes to be credible components in decision-making environments that are highly charged and polarized?

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3.2.2 Using SEA to Enhance Public Influence over Policy Making

The Scottish government has extended the scope of the 2001 European Union SEA Directive to cover virtually all new Scottish public sector programs, plans, and strategies (PPSs). Describing the Environmental Assessment (Scotland) Act 2005 as "world-leading legislation," Scottish ministers saw this as meeting three goals:

- contributing to their aims of improving the Scottish environment and making Scotland more sustainable;
- improving policy making by ensuring that environmental effects were fully considered at an early stage in policy formulation and that the environmental effects of different options were assessed; and
- promoting more open government by allowing the public and interested organizations to comment on environmental reports, and obliging public bodies to explain how they have taken such comments into account.

The new facilities created to support the additional SEAs required included:

- an electronic SEA gateway linking the public bodies (responsible authorities) undertaking an SEA with the three consulting authorities statutorily obliged to offer comments and advice (Scottish Natural Heritage, Scottish Environment Protection Agency, and Scottish Heritage), which provides a repository for reports and comments on all stages of the process that is fully open to public scrutiny (www.scotland.gov.uk/Topics/Environment/environmental-assessment/sea);
- an SEA forum that meets several times a year, bringing together Scottish SEA practitioners to exchange ideas on good practice;
- an annual statistical report on the operation of the legislation presented to the Scottish Parliament; and
- an SEA Toolkit, also in electronic format and regularly updated.

The Scottish government also commissions research and offers formal guidance on various aspects of SEA practice,

such as its use in assessing the climate change implications of PPSs.

A good example of how SEA is making Scottish plan making more transparent is demonstrated by its role in producing the second Scottish National Planning Framework (NPF). The SEA Scoping Report was made available for consultation early in 2007, accompanied by a briefing note that explained that SEA enabled the public to become involved at the outset in choosing an optimal development strategy for constructing the NPF:

> SEA is not just a test of how 'environmentally friendly' the NPF is, applied after its content has already been decided. Importantly, environmental impacts are being identified (and where possible avoided) as the NPF is being written, so that the SEA really influences its content. SEA is required to assess the environmental impacts of the proposed NPF, and to compare this with a range of 'reasonable alternatives'. This allows us to explore a wide range of ideas and opportunities before deciding on the best solution and, if possible, including it in the NPF.

The team responsible for drafting the NPF included an SEA specialist who championed the role of public participation at this initial stage, arguing that "it's all about getting involvement as early on as possible. There's no point in doing separate consultation on SEA. If you're doing a proper consultation on the plan the SEA should be integral to that." While drafting the Scoping Report, the team went out to meet the public, holding a series of open meetings across Scotland:

> allowing us just to listen to what people were expecting from the exercise and to draw initial ideas. It's all about front-loading the exercise and getting those views in before you start drafting. There should be an awful lot of work done before you get to the Discussion Draft stage. You need early and effective engagement. In the early part our role was quite passive, hearing views rather than going out and leading too much on the SEA. It was still so open it was impossible to pre-judge that. Alongside that we also did the scoping work and spoke to the consulting authorities—quite low key really but it was to get their views on how we were going to do the SEA.

A key innovation stemming from this process of front-loading was the production of an interim environmental assessment of the strategic alternatives which emerged from initial discussions:

> We came back from all those listening events and it was clear that there were lots of different ways that the NPF could go. There needed to be some structure for thinking through what the different environmental performance of different options and choices identified would be. I'd used scenarios in other work that I'd done before and felt it was quite a good way of setting out some of the key choices. I worked with the rest of the NPF team to crystallize scenarios based on the consultees' views that we'd got from the listening events. We then ran an assessment on the environmental effects of these before choosing the preferred scenario for the Consultation Draft of the NPF and its full Environmental Report, both of which were then put out for discussion.

These interim reports were published simultaneously at the start of 2008, allowing the completed NPF to come into effect late in 2008 accompanied by a Finalized Environmental Report indicating how the views of consultees on potential environmental effects had been accommodated.

This case study epitomizes the Scottish approach to SEA. Because its all-embracing legislation includes voluntary as well as statutory PPSs, SEA is central to Scottish public sector policy making. As a consequence, Scottish SEA practitioners are establishing a "community of practice" through regular exchanges of views on techniques, guidance, and policy initiatives via the SEA gateway and meetings of the SEA forum.

Scottish official guidance stresses that SEA should focus on the environmental aspects of PPSs, reflecting the Scottish government's views that including social and economic considerations "risks obscuring the environmental considerations that we are setting out to identify." As our case study demonstrates, its emphasis on public participation in SEA is central to discharging the Scottish government's obligations under the Aarhus Convention to deliver "environmental justice."

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3.2.3 Making Impact Assessment More Influential: Lessons from the Netherlands

When discussing how impact assessment can be made more influential, often the term "effectiveness" is employed. *Procedural effectiveness* usually addresses the extent to which an IA is conducted in line with established procedures (e.g., the extent to which opportunities for stakeholder participation are provided). *Substantive effectiveness* relates to the extent to which IA contributes to environmental awareness of decision makers (i.e., competent authorities and developers), the explicit consideration of environmental values in decision making, and eventually the environmental performance of projects, plans, and policies (PPPs).

An often advanced claim is that the *context* in which IA operates matters for the level of effectiveness achieved. In addition, IA regulations vary between countries and even within countries. Hence, in this story, we briefly reflect on the Dutch situation.

In the Netherlands, IA formally got a legal status in 1987, but experiments had already started a decade earlier. Internationally, the Netherlands has often been perceived as a frontrunner in IA because the Dutch IA legislation covered many of the elements that are considered essential for good

IA systems. It should be noted that the Dutch IA system was heavily inspired by the Canadian model. Elements that were considered to make the Dutch IA system unique included the requirement to develop an "alternative most friendly to the environment" (AMFE), and the Netherlands Commission for EA charged with quality review. In the present situation, the Dutch IA system no longer seems to be front-running, among other things, due to the abolishment of the AMFE requirement and the fact that other countries have expanded their IA systems.

In the Netherlands, similar to many other countries, *conducting* an IA is required for particular PPPs, but decision makers are not challenged to actually incorporate the outcomes of the assessment—for example, choose the most environmentally friendly alternatives or mitigation measures identified during the assessment. "Follow-up" requirements are in place but often are not complied with in practice, due to, among other things, difficulties in attributing changes in the natural environment to the decision at issue. Therefore, in particular, the *substantive* effectiveness of IA largely depends on the willingness of decision makers to take environmental concerns into account, which of course is influenced by the interplay between them and other actors involved.

Our 2010 survey of over 440 Dutch IA practitioners (representing all roles in the IA process) and 20 in-depth supplementary interviews revealed that IA substantive effectiveness is reasonably high. A majority of respondents perceive that IA contributes to environmental awareness among decision makers. In addition, IA often influences PPPs subject to IA at an early stage of decision making: anticipating an IA, environmental concerns are more consciously taken into account (the "prevention effect"). In addition, in about 60% of the cases IA results in adjustments of PPPs. It should be noted that these adjustments are seldom fundamental (e.g., in terms of abolishing initiatives or choosing alternatives developed in IA). The legal requirement to conduct IA appears to be the main explanation for IA substantive effectiveness: IA has an impact because it has to be conducted, not because actors choose to do so voluntarily. This also becomes visible in the prevention effect and in how our respondents perceive IA is applied: a mandatory exercise rather than a tool to design and optimize the PPP at stake. The result is that they seldom move beyond what is minimally required by IA or environmental legislation, which puts a serious constraint on opportunities to make IA more influential. Earlier evaluations conducted in 1990, 1996, and 2003 have similar outcomes, suggesting IA substantive effectiveness is rather stable over time.

Despite its mandatory character, the predominant attitude toward IA is quite positive. For most respondents, IA namely is instrumental in providing transparency of decision making and in minimizing legal risks of not complying with environmental laws. This also explains why procedural effectiveness is quite high: formal procedures are usually complied with and there is not much evidence of "salami tactics" (i.e., avoiding IA by subdividing PPPs into smaller ones). Perceptions of and expectations regarding IA largely converge. This "common ground" provides a good basis for working with IA but, at the same time, does not stimulate creativity in decision making and optimization of environmental values. Our survey and in-depth interviews with IA practitioners with experience from various policy fields provide a few suggestions for improving IA effectiveness, such as more transparency in IA legislation in the screening stage, promoting a more concise *scoping*, and providing an environment in which creative use of IA as a design tool is promoted.

The lesson that we derive from our study is that expectations of procedural as well as substantive effectiveness of IA should be realistic. Although conducting IA is mandatory for specific initiatives, it is up to decision makers to weigh the insights from an IA against other concerns. IA practitioners may facilitate decision making by clarifying IA regulations, ensuring high quality of IA and pointing to discriminating results. They, however, can never replace decision makers.

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3.2.4 When an Impact Assessment Misses the Point

This story describes an example of IA process and documents, which had no to negligible effects on decision making. The process and documents were treated as a procedural "annoyance." The story describes what went wrong and why. It addresses the ineffectiveness of EIA when compared to local authority political will.

A new shopping mall was constructed in Potchefstroom in 2007. Potchefstroom is a medium-sized town of approximately 163,000 people situated about 130 km south-west of Johannesburg in South Africa, on the banks of the Mooi River.

The Mooi River is a relatively small, perennial stream flowing through the center of town. Such perennial streams are uncommon in the semiarid conditions of large parts of South Africa. It is, therefore, an important part of the unique character and heritage of Potchefstroom. However, the area surrounding the river in the center of town was largely derelict land, mostly used by truckers for overnight parking, with associated waste and litter problems, in the absence of proper ablution facilities. The rest of the particular area was overgrown, rather unsightly, and not safe.

A developer applied for permission to build a modern and upmarket shopping mall on the most central portion of the derelict land, which straddles the stream. The proposed mall

entailed a building that connected both banks and channeled the perennial river through a tunnel below the ground floor.

A comprehensive EIA was conducted with a number of specialist studies including an ecological assessment of the riparian vegetation and associated fauna, a traffic impact study, and a geo-hydrological study. It was accompanied by an extensive public participation exercise. Apart from the weak consideration of location alternatives, it can be regarded as a very well conducted EIA. The EIA was also aligned with a Water Use application by virtue of the location of the site in a floodplain and within the 1-in-50 years flood line.

The EIA was approved, and an Environmental Authorization and a Water Use License were issued, subject to a number of environmental management conditions being carried out in accordance with the environmental management plan.

On the basis of the Impact Assessment, various elaborate mitigation measures were implemented, including semi- or partly translucent floor panels in the mall to allow a limited amount of natural light into the tunnel by which the stream flowed beneath the mall, as well as allowing some of the natural banks of the stream to remain undisturbed. The construction phase also required careful maintenance of the river banks during construction of the mall and associated parking lots, roads, and bridges.

The EIA can therefore be seen to have been conducted correctly and to a good best practice standard. However, despite the standard of the EIA, it didn't address the bigger and more important issue of whether it is in the best interest of the town and the environment for a commercial enterprise to be constructed in a unique urban green belt situated around a perennial stream. Ideally, this should have been dealt with at the level of Strategic Environmental Assessment, but there was neither SEA nor an Environmental Management Framework nor a Green Belt Policy.

It was clearly the intent of the City Council to develop this mall with the associated income from the sale of municipal services and land rental in an area which the City Council was unable or unwilling to develop as an environmental resource, for example, by way of a an attractive and safe urban park and water area. In terms of the Constitution, as an organ of state, the City Council is the guardian of the environment for the citizens of the City, but by encouraging the development of this mall, the City Council delegated certain environmental maintenance responsibilities to the developer, and abdicated environmental governance responsibility to the Environmental Authority who had to approve or reject the EIA application.

The abdication of environmental responsibility by the City Council was facilitated by the administrative mismatch between municipal planning, which operates at the municipal level, whereas Environmental Authorisation operates at the provincial level. One consequence is that the Environmental Authority (situated 200 km away) does not have sufficient understanding of the full spectrum of environmental governance issues in the municipality.

Therefore, we see an example of a situation where the City Council had decided that the mall had to be built, and the EIA was therefore reduced to a procedural exercise, and had negligible effect on the decision.

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3.3 DEFINING THE PROBLEM AND DECIDING ON A DIRECTION

3.3.1 Some Insights from Practice

The four stories, presented in the previous section, address the issue of IA influence at both the regulatory and the applied levels. The first story demonstrates the tendency of major stakeholders, including the government, to adopt positions regarding major proposals from the outset, and then to actively seek to "win the contest," largely operating outside the IA process. Even though the IA process proceeds, the expectation by all parties tends to be that, regardless of the outcome of the process, major decisions concerning if and how the proposal might proceed will be made outside the IA process. The dilemma then is how to make the IA process relevant to the needs and interests of all parties. The second story highlights a creative approach to using SEA to enhance public influence over policy making. It describes the creative and proactive application of a range of procedures for making Scottish plan-making more transparent, open, collaborative, and inclusive. The story demonstrates that, provided there is an early and ongoing commitment to public participation, practical methods are available for opening up policy making to public scrutiny, involvement, and influence. The third story illustrates the types of "real world" issues related to IA influence that tend to arise within organizations and institutions because of the perceptions, attitudes and behaviors of administrators and decision makers. The story uses the prevailing practice, an IA practitioner survey, and in-depth interviews to paint a realistic picture of both constraints to and opportunities for enhancing the procedural and substantive effectiveness of IA in informing and affecting decision making. The fourth story describes a situation in which the key environmental issue (i.e., whether the mall should be built) was not addressed by the EIA, and the EIA process and documents had a negligible influence on decision making.

3.3.2 IA Relevance and Influence Still Being Questioned

The fact that the relevance and influence of IA is still being questioned after close to 40 years of practice and application in nearly 100 countries is something of a surprise. Arguably, Impact Assessment, in all its forms, should be broadly viewed as a well-established form of environmental

management—distinct from and complementary to other forms of environmental management. It should be generally acknowledged as necessary and worthwhile. IA practitioners should be widely seen as accomplished and highly trained professionals essential to IA design and application. The IA methodological foundation, at both the regulatory and the applied levels, should, for the most part, be regarded as conceptually sound, substantive, and proven. Questions regarding the utility and net benefits of IA largely should have subsided. Instead, the focus should be on broadening and deepening the IA knowledge base, and on refining and polishing IA practice.

An overview of IA-related literature tends to echo this generally positive impression. However, perceptions in IA practice are more mixed. One perspective that tends to undermine IA's effectiveness is the view that there is very little to IA methodology. As such, other professionals and specialists (e.g., engineers, specialists in the natural and social scientists, lawyers), it is maintained, can readily acquire (on the job) the requisite knowledge and skills. This perspective is sometimes found among project managers responsible for capital projects subject to IA requirements, and among legal professionals responsible for advising clients on how best to satisfy the government requirements.

A second perspective questions whether IA is necessary, worthwhile, or even feasible. This perspective is often found within the academic community (that questions the validity of IA as a body of knowledge), among environmental advocates (who question whether IA, on balance, advances or undermines environmental objectives), and among politicians, proponents, and sometimes administrators (who see IA as, at best, a necessary procedural "nuisance" that is largely unrelated to decision making).

A third perspective argues that the purpose of IA (i.e., making planning and decision making more environmentally substantive) is already being achieved through a combination of actions (policies, plans, programs, and projects) directed toward environmental ends and actions where environmental considerations are systematically integrated into the planning and decision-making process. This perspective maintains that IA requirements are either superfluous or a negative influence (e.g., wasted resources, distorts planning and decision making). This view tends to be held by policy makers and planners responsible for formulating and managing the preparation and review of policies, plans, programs, and projects.

The identification of these negative perspectives immediately raises a series of questions. What is the nature of these perspectives? How widely are they held? To what degree are they valid? To what degree are they undermining IA's effectiveness? What steps can be taken, at the conceptual, regulatory, and applied levels, to avoid and counter these negative perspectives? In what ways can these individual initiatives be integrated into a coherent set of reforms to IA requirements and processes? This section begins by characterizing the perspectives (i.e., defining the problem). It then establishes a general direction for resolving the problem.

3.3.3 Perspective 1—IA—What Could Be Simpler?

According to Perspective 1, as illustrated by Figure 3.1, and as described below, IA is a relatively simple and straightforward procedure. It is a procedure capable of effective management with only a cursory knowledge of IA methodology. The IA process, for example, is simple and logical. It closely mirrors rational planning formulations familiar to anyone with even a superficial exposure to public policy, planning or administration. A proposal is brought forward. Regulatory requirements are determined through screening. The overall IA process is designed and focused through scoping. Proposal characteristics are determined. Environmental data are collected, analyzed, and interpreted. Future environmental conditions, with and without the proposed action, and relative to other actions affecting the same environmental conditions (i.e., cumulative effects), are identified, predicted, and interpreted. Impacts are avoided and minimized, to the extent practical, by considering alternatives and mitigation measures. Measures to monitor future environmental conditions and to manage potential impacts are formulated. Agency requirements and public concerns are integrated into the process prior to key decisions. All of the above is documented in technical and summary reports that provide the basis for agency review, and for political decision making. The proposed action is then rejected or approved. Approval, when it takes place, is generally subject to an array of conditions.

Impact Assessments are generally prepared by teams of proposal-related and environmental specialists. These teams are generally headed by experienced proposal or environmental experts (e.g., engineers, planners), supplemented by procedural experts (e.g., lawyers, public participation). The management team is expected to work closely with proponent representatives, and with a team of proposal and environmental specialists. Most, often all, of the IA methodological knowledge employed in the process is derived from reviews of IA regulatory requirements and guidelines, from discussions with government agencies, from experiences with previous IA processes, and from reviews of IA documents associated with other projects. The IA knowledge base is assumed to be limited, simple, and largely static. IA team managers and members believe that they can acquire the essentials of IA methodology "on the job" in the course of preparing IA documents, conducting IA processes, and interacting with colleagues. It is further assumed that there is no need for additional methodological guidance beyond what can be accessed from a quick perusal of existing IA guidelines and introductory texts. All that good practice requires is for IA practitioners to "polish" their knowledge through experience and, where practical, through discussions with peers in the same and related fields. Anyone with good general project manager

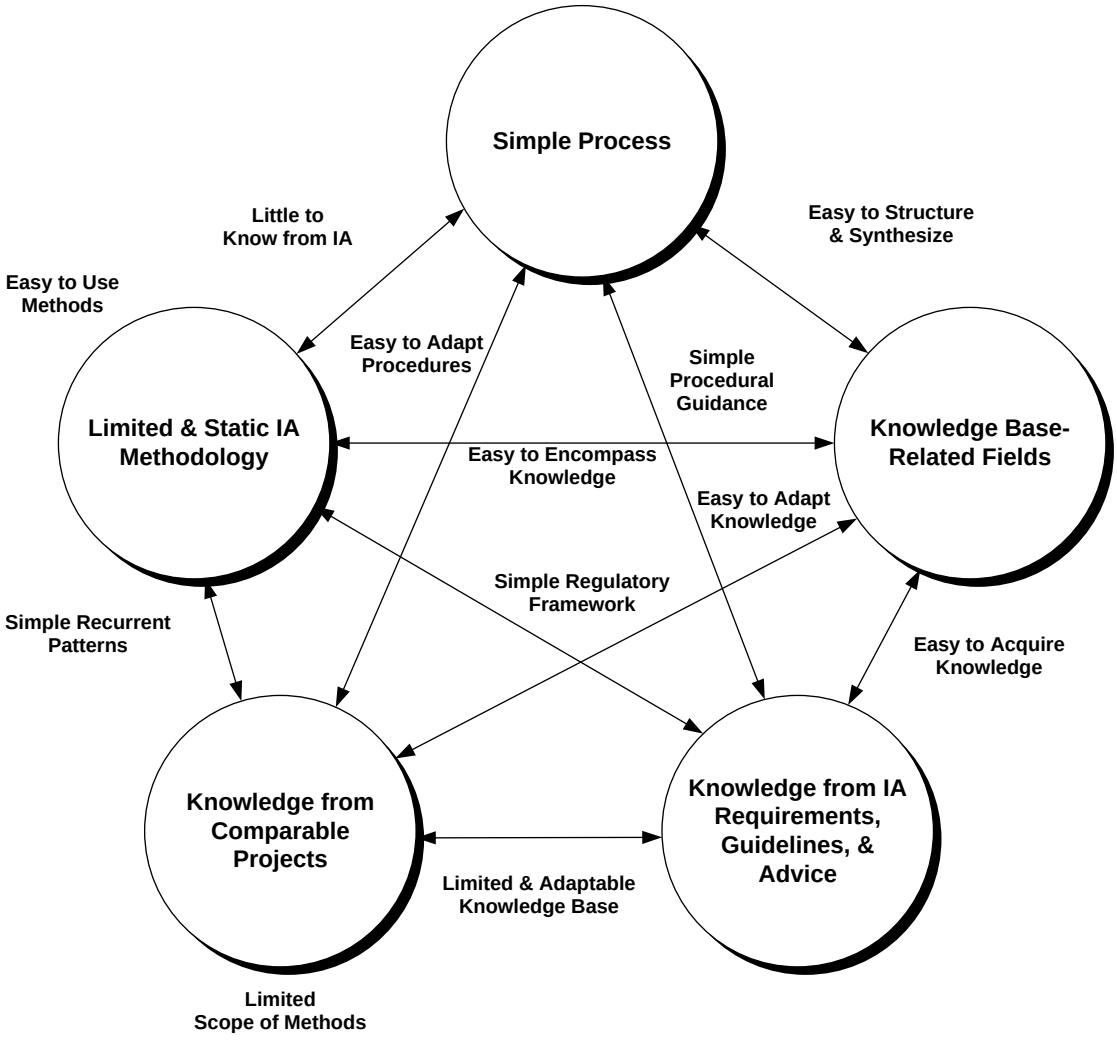

Figure 3.1 Perspective 1: the "what could be simpler" perspective.

skills is capable of combining the inputs of the specialists into a coherent set of documents, and within a sound planning process.

Perspective 1 is not widely embraced in IA literature as an appropriate model for practice, notwithstanding calls for IA practice to exhibit more "common sense" (Ross et al., 2006). This does not, however, mean that it is not a widely held view among those who actually prepare IA documents and manage IA processes. This could partially explain the inadequate theoretical basis of IA (Cashmore, 2004), and the frequently cited gulfs between theory and practice (Cashmore, 2004; Cashmore et al., 2010; Lee, 2006), practice and decision making (Bond and Morrison-Saunders, 2011; Cashmore et al., 2010; Deelstra et al., 2003; Galbraith et al., 2007), and process and substance (Benson, 2003; Cashmore, 2004). It also might provide reasons for the extremely slow and limited IA learning curve (some would maintain the absence of a learning curve) (Tzoumis, 2007).

3.3.4 Perspective 2—IA—It Can't, Won't, or Shouldn't Be Done

Perspective 2 (see Figure 3.2) asserts that an IA cannot, will not, and should not continue to be institutionalized and applied as a decision-making aid. A variety of overlapping and mutually reinforcing reasons have been offered up to support this conclusion.

IA boundaries are inherently artificial. It can always be argued that more alternatives, further aspects of the environment, more proposed action information, additional direct, indirect and cumulative effects, and more impact management measures should have been considered, or considered at a greater level of detail. Opinions also tend to vary, often dramatically, regarding if and which thresholds should be used in screening requirements, concerning the appropriate procedures for defining study areas and time horizons, and

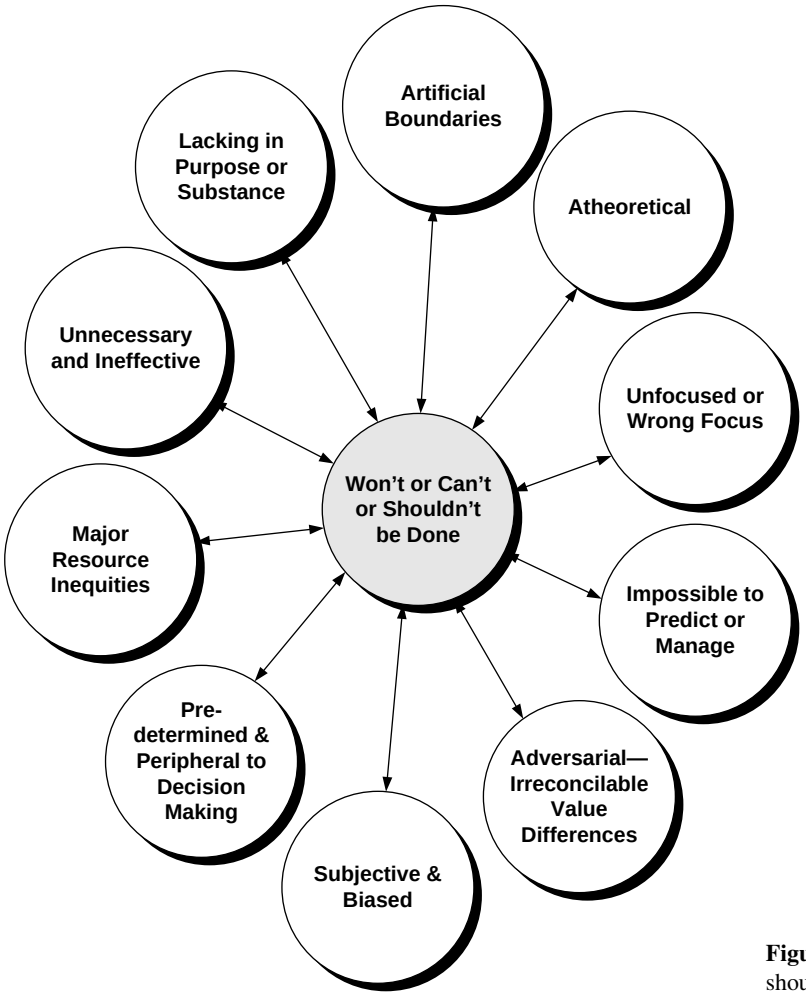

Figure 3.2 Perspective 2: the "it can't, won't, or shouldn't be done" perspective.

pertaining to how best to scope environmental attributes, impacts, and the extent of involvement of various participants in the process. Any attempts to circumscribe such analyses to manageable proportions are subjective and arbitrary.

IA is atheoretical. The theoretical state of the art of IA is not adequately developed. Also, there remains a persistently wide gulf between the conceptual foundation of IA and IA practice and between potential and outcome. To the extent that the conceptual basis for IA is applied through, for example, the application of "good practices," there is a tendency to apply frameworks, concepts, and methods without the necessary contextual adjustments. With major theoretical gaps and little interaction between theory and practice, it is little wonder that the IA "learning curve" is so gradual and erratic that flaws and pitfalls continue to be repeated in practice.

IA lacks focus or tends to focus on the wrong things. Time and resources are never unlimited. A misplaced attempt to be comprehensive can mean far too much attention and resources are devoted to aspects of the environment and potential impacts of limited significance, and far too little resources and time are devoted to those aspects of the environment most susceptible to proposal-induced changes and most likely to experience severe, proposal-induced changes. At the same time, focusing too early in the process, and then remaining inflexible, can result in critical concerns being missed or receiving insufficient attention. This combination of lack of focus and inappropriate focus has contributed to an IA performance that all too often is well below potential, and has failed to show improvement consistently over time and among agencies.

Environmental condition changes and effects are impossible to predict or manage over the long term. Forecasting changes in proposal characteristics, in environmental conditions, and, most importantly, in the interactions between the two, for many decades into the future is extremely difficult and commonly plagued by major, difficult to bound, uncertainties. It verges on the impossible as the orientation shifts from the "is" and "is likely to be" to the even more subjective realm of "what's important" and "what should be done." Cumulative Effects Assessment (CEA) can even more problematic. The state-of-IA practice, as evidenced by the major gap between theory and practice, reinforces this perspective. The net result of all these limitations and

questionable practices could be seen as an amorphous mass of glib generalizations, baseless speculations, wishful thinking, and untestable assertions.

IA practice is confounded by irreconcilable value differences and is inherently adversarial. Value systems invariably in IA practice are almost always extremely diverse. Conflicting perspectives, values, and belief systems abound. Often diametrically opposed and irreconcilable positions are adopted from the outset, and maintained throughout the IA process. Adversarial IA processes, if anything, compound these divisions. Public consultation is commonly viewed as a mechanism from informing and educating the public regarding the merits of the proposed action. Without meaningful public participation, the IA process lacks legitimacy. When the IA process is not considered legitimate or relevant by interested and affected parties, it is little wonder that those parties so often choose to advance their interests outside the IA process.

IA processes and practices are inherently biased and subjective. IA tends to depict itself as an "impartial" decision-making tool. If anything, it is ostensibly inclined toward more environmentally sound and more open and inclusive decision making. These aspirations are rarely achieved in practice. Notwithstanding its environmental aspirations, IA proposal review processes continue to be dominated by entrenched interests. Although cloaked in an aura of objectivity and impartiality, subjective judgments are inherent to every step of the IA process. When those judgments are not substantiated, but rather are simply presented as expert pronouncements or conclusions, bias can rapidly creep into and dominate IA processes and documents.

IA-related decision making tends to occur prior to and/or outside the IA process. The IA process is "triggered," in most cases, by a proposed action on behalf of a proponent. Usually the proponent's planning is already well advanced. External political and economic decision-making factors generally hold sway when it comes to deciding whether a proposed action should or should not proceed. The best that can be hoped for is slightly less environmentally intrusive actions where the most severe or, at least the easiest to measure and/or manage, adverse effects are ameliorated by mitigation measures, grafted on to a largely predetermined action. The worst that can occur is the illusion of environmentally responsible decision making while the real, often environmentally irresponsible, decision making is taking place outside the IA process.

Inequities in resource distribution result in a largely meaningless IA process. IA resources tend to be concentrated with the proponent (who arguably has a decided bias), and, to a lesser degree, with the government regulators (who are prone to political influence and whose perspectives are confined by narrowly defined, regulatory compliance boundaries). Other interested and affected parties must "make do" with a tiny fraction of the resources available to the proponents and regulators. Resources for IA practice also are invariably "front-end loaded." Once a proposed action is approved, the resources remaining for monitoring, enforcement, contingency measures, and auditing tend to be minimal.

IA requirements and processes are neither necessary nor effective. IA has been around long enough that it is reasonable to ask whether it has been worth the effort. The list of practice-related flaws is both lengthy and, arguably, all encompassing (e.g., undisclosed methods, scoping too narrow and inflexible, insufficient information, the weak treatment of alternatives, uncertainty and cumulative and transboundary effects, over-simplified analyses, poor integration of health and sustainability concerns, vague, arbitrary, and inconsistent significance interpretations, preoccupied with document preparation, inadequate adaptations to context, documents inaccessible to the public and decision-makers, token, belated and inadequately supported public involvement, non-specific mitigation measures, the tendency to ignore postapproval monitoring and management). These deficiencies have occurred, notwithstanding a range of IA texts, journals and applied research studies, and forums seeking to provide methodological advice to IA practitioners and other stakeholders. If IA practitioners are only using the available applied resources to a very limited extent and those with real decision-making power hardly at all, are continuing efforts to enhance the IA state-of-practice really worth the effort?

IA has either not made a substantive environmental contribution or it is unclear what the nature and extent of that contribution might be. IA has long been criticized for an almost complete preoccupation with procedure and documents over either substantive goals or outcomes. Even the modest objective of taking into account and ameliorating the likely environmental consequences of proposed developments has only been achieved to a limited degree. When measured against sustainability objectives, the outcomes are even more dubious and limited. These very modest, at best, achievements have occurred notwithstanding the vast resources consumed by a largely procedural (arguably vacuous) set of institutional arrangements, largely divorced from actual decision making.

3.3.5 Perspective 3—We Already Do That

Perspective 3, as illustrated by Figure 3.3, starts from the premise that the major purpose of IA (i.e., more environmentally sound decision making) is or can be achieved through environmentally driven and shaped policies, plans, programs, and projects, without the imposition of "action-forcing" IA requirements. Proponents of this perspective point to the many public policies, plans, and programs designed and implemented to achieve environmental aspirations—initiatives launched and undertaken without the necessity of grafting on IA requirements. They maintain that there already is a long tradition of infusing environmental perspectives and knowledge into public and private

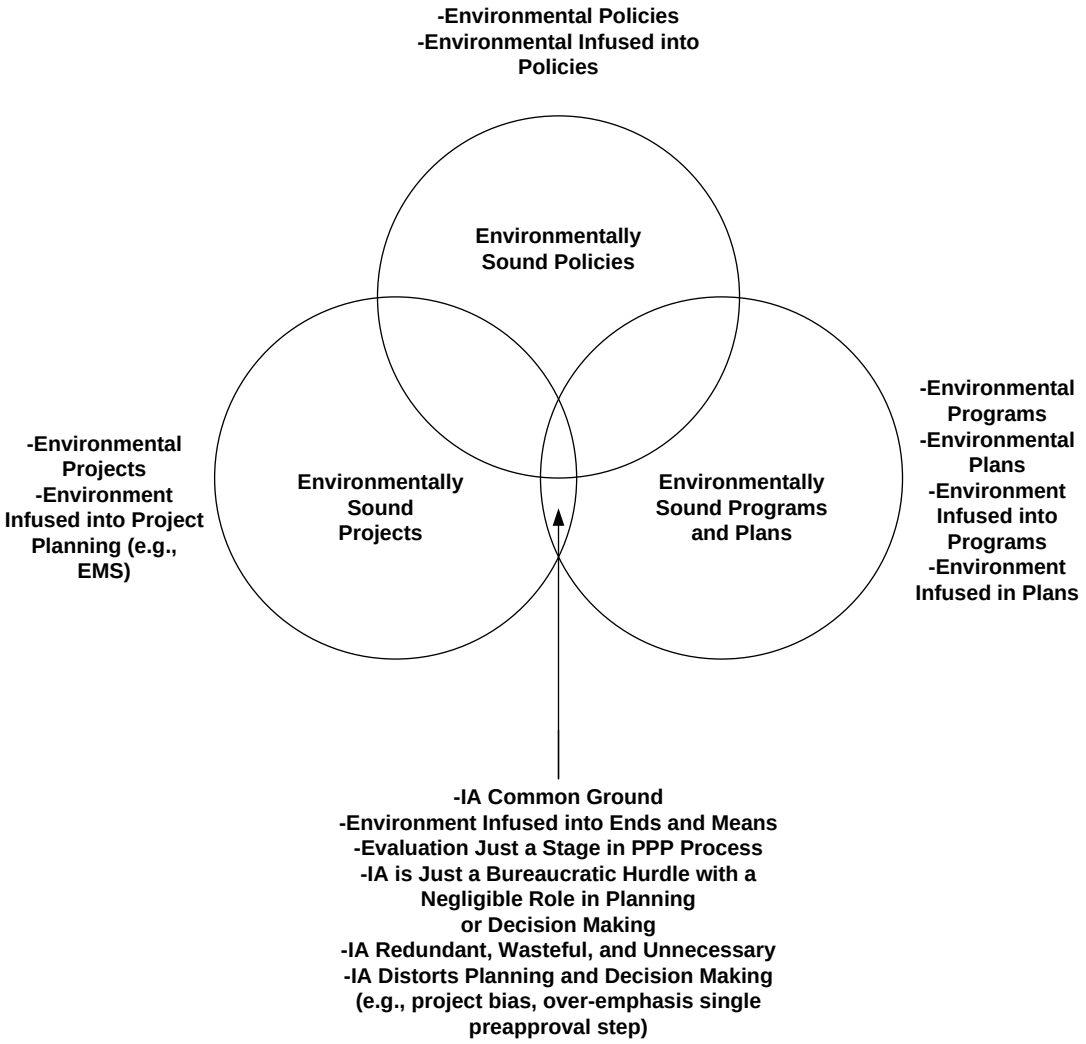

Figure 3.3 Perspective 3: we already do that (mostly or even better).

decision making. Reference often is made, for example, to land use and resource management plans that avoid and minimize cumulative effects on environmentally sensitive areas and features; to infrastructure and urban development plans and programs that seek to minimize the environmental "footprint" of human activities; to the integration of climate change concerns into public decision making at all levels; and to numerous initiatives (e.g., EMS) that effectively integrate environmental concerns into private-sector planning and decision making.

Perspective 3 is often common to public and private policy, plan, program, and project specialists. These individuals tend to assert that they have applied environmental values, principles, and good practices in their professional activities for many years. Therefore, they argue, they neither need nor want external advice or direction regarding how best to reorient their actions toward environmental ends. They tend to resent the presence of IA requirements, arguing that such requirements are an additional and unnecessary burden. They stress that their time and other resources are already tightly constrained. The addition of "paper pushing" IA exercises only hinders, they suggest, their ability to perform their already environmentally oriented functions in an efficient and effective manner.

Advocates of Perspective 3 tend to see IA as the artificial separation or rather duplication of the planning process evaluation step—a step well established in public and private planning and decision-making processes and fully supported by an extensive plan, program, and project evaluation literature. Not only does IA artificially segment planning processes, they argue, it distorts planning processes by introducing biases that have been carefully avoided in public policy and planning research and practice. IA, they maintain, notwithstanding efforts to the contrary, still reflects a heavy project bias. This bias infuses, they argue, all aspects of IA theory and practice. As a consequence, when applied to the evaluation of policies, programs, and plans, it impedes the effective execution of the evaluation step. IA further distorts and impedes planning and decision making because it over-emphasizes a single preapproval

step. As a result it does not reflect the continuity and multiplicity of planning and decision-making steps characteristic of both public and private decision making. These biases and distortions, they argue, tend to mean that not only is IA wasteful, unnecessary, and redundant, it is often a negative influence on environmentally sound planning and decision making.

3.3.6 Where Do We Go from Here? (The Direction)

Sections 3.3.3–3.3.5 detail the problem as represented by the three negative perspectives. The next step (presented in Section 3.4) is to explore the validity of these perspectives together with exploring ways in which these perspectives can be refuted (to the extent that they are not valid) and offset (to the extent that they are valid). Included in this analysis are key concepts and integrative frameworks, together with knowledge base and research priorities. Section 3.5 summarizes how IA can be made more influential at the regulatory level. Examples of pertinent reforms from the four jurisdictions are included. An overview of an influential IA process is then presented. Adaptations for different IA types also are highlighted. Section 3.6 addresses the contemporary challenge of good practice guidance for making IA more influential over decision making. Section 3.7 presents an overall summary of the analysis.

3.4 SELECTING THE MOST APPROPRIATE ROUTE

3.4.1 The Legitimacy of Perspective 1

Perspective 1 is correct in maintaining that the basic IA process and general IA methodology (in a "broad brush" sense) is not and should not be complex. All parties in the IA process must be able to understand the major steps in the process and make their contributions prior to major decisions in the process. It also must be possible to prepare summary materials and documents in a form that can be readily understood, and promptly reviewed by government agencies, the public, and elected representatives. But it does not follow that how best to design and apply the IA process is self-evident. Nor does it follow that IA methodology constitutes no more than compiling (in consistently formatted technical documents), and summarizing (in user-friendly summary reports) specialist analyses, and the inputs of government reviewers and the public.

Over the close to 40 years that IA requirements have been in place, a considerable IA methodological knowledge base has been constructed. That knowledge base pertains to IA institutional arrangements, to IA activities (e.g., impact prediction, impact management, the evaluation of alternatives), to the many ways in which individual IA activities can be subdivided, linked and aggregated into overall IA processes, and to a variety of forms of IA (e.g., SIA, SEA, technology assessment). The range and scope of IA theory and practice has broadened considerably, especially over the past two decades. Although a consensus is gradually emerging regarding many aspects of good and poor practice, overlapping and competing perspectives still abound regarding how IA should and should not be conducted. To some extent these differences can be attributed to contextual differences (e.g., social, cultural, political, and ecological variations). However, they also reflect deeply ceded value, perspective, and ideological differences—differences that often are expressed in varying interpretations of IA's effectiveness. The IA knowledge base is, in addition, highly permeable. Concepts, theories, frameworks, and distinctions are frequently borrowed and adapted, not always successfully, from various social and natural science disciplines, and from related fields of practice.

Admittedly then, the IA knowledge base is complex. It necessitates careful interpretation, and a considerable sensitivity to subtle distinctions and the potential implications of uncertainties. It does not, however, follow that the IA knowledge base is, therefore, irrelevant, impractical, or irreparably compromised. To gloss over all this considerable body of knowledge and experience, as if it were irrelevant to IA practice, as proponents of Perspective 1 would have, is dangerously naïve. Surveys of IA practitioners and analyses of IA practice demonstrate that there is considerable room for improvement. The deficiencies, cited in practice in recent years, often mirror those identified decades ago. Arguably, after more than three decades of experience, this should not be happening with the same frequency, and to the same degree. At the same time there are numerous examples of sound and effective IA processes, built to a considerable degree upon a foundation of well-designed, applied, and adapted methodology.

Although each IA process has its unique aspects, it should be possible to steadily improve IA quality and effectiveness if IA practitioners are systematically learning from the positive and negative experiences of other practitioners, and from insights available through IA and related literature. The knowledge base of related fields can provide many valuable insights and relevant methods. Substantial experience and working knowledge, however, is required when drawing upon and adapting procedures and methods from other forms of environmental management and from other fields of study and practice. Adapting discipline-specific knowledge and methods to applied, prescriptive, and interdisciplinary situations can be especially difficult. IA, therefore, is far from simple, static, mature or easily acquired "on the run." Any additional advice that systematically draws upon and supplements the conceptual foundation of IA, and is grounded in IA practice, should be welcomed rather than dismissed as unnecessary.

3.4.2 The Legitimacy of Perspective 2

Perspective 2 argues that IA contributes next to nothing to our understanding of the environment, and is a fatally flawed

environmental management tool. It offers up numerous shortcomings, some related to the conceptual foundation of IA, some that represent external constraints, and some that constitute practice-based deficiencies. Each assertion needs to be carefully explored to determine its legitimacy and, where potentially valid, offsetting measures need to be instituted.

Boundaries Judgments must, indeed, be made in bounding and focusing IA requirements and processes. Subjective interpretations are inherent to IA as they are in all applied fields of practice. The issue then is not objective versus subjective judgments but rather how well the subjective judgments are substantiated by clear and explicit methods and by consistent, thorough, thoughtfully reasoned, and broadly supported arguments. Subjective judgments, in particular, tend to have greater validity if they are strengthened by the direct participation of and support by all interested and affected parties.

Atheoretical The data collected through IA practice is primarily for decision-making purposes. As such, in IA data collection, analysis, and interpretation, more emphasis is placed on relevance, prescription, and application than on rigor, explanation, and scientific knowledge accumulation. IA also has many subjective elements, and is highly context dependent (i.e., more relative that absolute). These decision-centered tendencies constrain but do not preclude an IA knowledge contribution role for environmental management purposes (e.g., best practical science) and for an enhanced understanding of environmental systems. Many proposals have been made and constructive examples documented for more effectively grounding IA theory in practice, for enhancing the connections from practice back to theory, for narrowing the gap between decision-making and scientific requirements, and for establishing a coherent and comprehensive IA research strategy.

Unfocused or Wrong Focus IA requirements can facilitate greater focus through well-defined roles and responsibilities, mandatory scoping, and ongoing efforts to streamline and simplify procedures. In a substantive sense, IA can become more focused if substantive goals, especially sustainability, become the touchstone against which outcomes from IA institutional arrangements and IA processes are assessed. Procedurally, IA practitioners, organizations, and professional bodies can "raise the bar" concerning IA practice and can demand better quality assurance. Closer connections between IA research and decision-making demands are needed. An enhanced understanding of power and politics is required as a means of bridging IA research and decision making. Sufficient resources also need to be devoted to postapproval monitoring and management in order to reduce impacts, facilitate better impact prediction, and contribute to the IA knowledge base.

Impossible to Predict and Manage Uncertainty is inherent to all forms of decision making. This is especially the case for actions undertaken over lengthy periods of time, and whose effects may extend even further into the future. Even greater uncertainties are associated with cumulative effects. Multiple procedures are available for addressing, or, at least containing to manageable levels, these uncertainties and risks. IA mechanisms are likely to be even more effective if they encompass multiple decision-making levels, if they broadly define the environment, if they are guided by substantive environmental objectives, if uncertainties are acknowledged and their associated implications acknowledged, if they devote sufficient time and resources to impact management and IA auditing, if they effectively integrate the perspectives of all interested and affected parties, if they allow for the possibility of proposal rejection when there is a combination of major uncertainties and potentially severe consequences, and if proposed policies, plans, and projects are designed and undertaken with uncertainty management and adaptation as fundamental guiding principles.

Adversarial—Irreconcilable Value Differences Diverse, often conflicting, value systems are, indeed, an inherent feature of IA practice. This fact does not need to unduly constraint or confound IA practice. It can be viewed as a positive and necessary feature. For, given the complexity of IA practice and decision-making environments, it is necessary and desirable to integrate a wealth of knowledge and diverse perspectives. It can be easier to contain and manage conflicts within the IA process if, from the outset, the process is guided by a broadly discussed and supported vision and complementary set of goals regarding what the IA is intended to achieve. Early and ongoing discussion among interested and affected parties, supported by an inclusive and interactive public participation program, is essential if shared interests are to be identified and if conflicts are to be explored in a manner that does not derail the IA process.

Biased and Subjective IA decision making can, indeed, be problematic. Numerous potential biases can constrain, sometimes severely, sometimes even fatally, IA practice at both the regulatory and applied levels. But these biases can, in many cases, be prevented or, at least, partially offset. Numerous subjective judgments also must be made throughout the IA process. Subjective bounding and interpretative judgments must be justified, preferably by means of transparent procedures that integrate a diversity of perspectives. Such procedures are available to IA practitioners. At the regulatory level, bias and subjectivity can be ameliorated with clear legal standards and applicability rules, and a broad definition of the environment and effects. At the applied level, bias and weakly supported subjective judgments are less likely if the public assumes an early, active, and collaborative role in the IA process.

Predetermined and Peripheral to Decision Making IA requirements and processes are intended to inform decision making. This does not mean that the advice offered will

always be followed nor does it mean that other factors, outside the IA process, will not influence decision making. Concomitantly, it does not follow that IA processes will have no or negligible influence on decision making. All too often the lack of IA decision-making influence can be traced to poor IA practice. There are many reforms, conducive to narrowing the gap between IA and decision making, which can be made to IA regulatory requirements and processes. Sincere and capable proponents, environmental and IA specialists, regulators and other stakeholders can and have collectively contributed to better IA practice. Given the contentious and political nature of IA, approval and implementation is far more likely to occur if supported by a coalition of interested and affected parties.

Major Resource Inequities Resource distribution inequities are commonplace in IA practice. However, it does not follow that such inequities cannot be offset nor does it follow that steps cannot be taken to ensure that the perspectives, values, and interests of those with more limited resources cannot have a vital, in some cases decisive, role in IA related decision making.

The role of public participation in the IA process can be crucial in offsetting resource inequities. Regulatory reforms (e.g., broadly define the public, provide effective notice, provide participant funding, provide processes to address policy issues, assess public participation effectiveness) can help set the stage for an open, balanced, and collaborative IA process. The public needs to be involved early in the IA process, their concerns need to be taken seriously, and funding and assistance need to be provided for independent peer reviews, to allow stakeholders to conduct or fund their own IA analyses, to support process enablers such as facilitators and mediators, and for independent IA decision making (e.g., adjudicators, arbitrators). The provision of sufficient resources for IA auditing and during the postapproval stage also is crucial to ensuring that commitments are adhered to, and to facilitate ongoing public involvement in impact management.

Unnecessary and Ineffective On the question of whether IA has anything to contribute to environmental decision making, IA provides an environment-driven, "action-forcing" mechanism for evaluating proposed actions. Other environmental management instruments, in conjunction with a multilevel IA system, can contribute to more environmentally sound decisions. What they lack, without IA, though, is a centralized, in-depth, and "action-forcing" decision-making framework for evaluating proposed plans, programs, projects, and activities with potentially significant adverse environmental impacts. It is, moreover, hyperbole to suggest that IA has been totally or overwhelmingly ineffective. There is an ample record of IA leading to the enhanced consideration of environmental factors in decision making and to environmental enhancements. Improvements, albeit incremental, have been made to the government, institutional, and corporate perspectives, procedures, and proposed actions. Public and private decision making, for many proposed actions with potentially significant environmental effects, has been made more transparent and more open to public involvement. Institutional and corporate learning has occurred. There are numerous examples of environmentally unsound proposals being withdrawn, being improved to the point of becoming environmentally acceptable, and being rejected. Cost savings have been realized, the role of legal proceedings has been ameliorated, and public acceptance has been increased. Notwithstanding such positive examples, it is not an understatement to suggest that IA practice has fallen well short of its potential, and remains much less relevant, to decision making and in a substantive environmental sense, than it should be.

Lacking in Purpose or Substance The theme that IA is obsessed with process, almost to the complete exclusion of substance, is almost endemic in IA literature, and among IA critics and stakeholders. Although valid to a point, the dichotomy is not as sharp as is commonly portrayed. Process and substance can be complementary—one can facilitate the other. A well-designed and managed IA process can contribute to the achievement of environmental objectives. Environmental objectives can, in turn, guide and bound IA requirements and processes. It, however, is fair to argue that more attention needs to be devoted, in IA theory and practice, to environmental, especially sustainability, outcomes. Such a reorientation would entail, at the regulatory level, giving IA a statutory purpose and a clearly defined set of environmental and sustainability objectives, acceptability thresholds, and trade-off rules. At the level of the individual SEA and EIA process, greater attention could be devoted to collaboratively formulating environmentally sustainability visions, objectives, and criteria, and to more fully and effectively integrating social, economic, cultural, and health concerns.

3.4.3 The Legitimacy of Perspective 3

Perspective 3 is partially valid. Many policies, plans, programs, and projects are directed toward environmental ends. An environmental perspective is reflected in many policies, plans, programs, and projects. The evaluation step is intrinsic to policy making, program formulation, plan making, and project planning. Oftentimes, it encompasses environmental considerations. IA, when it simply is a belated "add-on" to existing planning procedures, can be of minimal planning or decision-making value while consuming valuable and limited resources. IA is indeed prone to a bias toward project-related methods and to a preoccupation toward a single preapproval stage. However, Perspective 3 overstates the extent to which the planning of policies, plans, programs, and projects, without the integration of IA requirements, fully and adequately addresses environmental concerns. It also overstates the deficiencies and limitations of IA as a field of theory and practice.

In an ideal world, IA would not be necessary. Planning and decision making at all levels would be directed towards environmental ends and would fully integrate environmental considerations into every planning and decision-making step. Such, however, is rarely the case. The reason for this shortfall can be partially attributed to external (e.g., political, institutional) factors that strongly influence planning at every level. However, it also is a reflection of deficiencies in contemporary planning and decision making—deficiencies that can be partially remedied through IA requirements and good practices. These deficiencies, as described below, stem in part from fallacies regarding environmental practice, both with and without IA requirements.

Environmental Proposals Have Negligible Adverse Environmental Impacts It is often assumed, erroneously, that a proposed action, in the form of a policy, plan, program or project, which is intended to achieve an environmental purpose (e.g., "green" projects, policies, or programs to reduce dependence on fossil fuels), are inherently positive in an environmental sense. For this reason, such proposals tend to be exempted from or "fast-tracked" with respect to environmental approvals. However, such proposed actions often generate adverse environmental consequences—sometimes to the point that the net environmental effects are negative. Also, there are the possibilities that alternative actions could represent a more environmentally effective allocation of resources or potential adverse environmental effects can be prevented or ameliorated. IA requirements and practices, when applied to such proposed actions, can effectively address whether, on balance, such proposed actions are environmentally desirable, whether they are superior to other potential proposed actions, and whether associated adverse effects can be prevented or reduced.

Environmental Considerations and Aspirations Are Enough There tends to be the expectation, at the policy-/planning/program level, that broad environmental goals and the consideration of environmental concerns is sufficient to ensure the adequate integration of environmental perspectives into planning and decision making at all levels. Intentions, however, are not the same as accomplishments. Nor is the consideration of environment equivalent to the "good practice" systematic integration of environmental concerns into every process activity in a manner that is transparent, systematic, comprehensive, consistent, accountable, and inclusive. Laudable aims can be undermined by ineffective means. Intended outcomes can be more than offset by unintended or inadequately considered consequences. IA requirements and practices enhance the potential for environmental aspirations to be realized, reduce the likelihood and severity of unintended environmental consequences, and facilitate the realization of a level of practice that is unlikely to be achieved when environmental concerns are addressed inconsistently and in a manner that lacks transparency and rigor, fails to fully include the perspectives of all interested and affected parties, falls short of good practice standards, and does not provide for independent and transparent external scrutiny.

Action-Forcing IA Requirements Are Unnecessary Advocates of this perspective tend to start by citing examples of environmentally conscious policies, plans, programs, and projects. Examples, however, are not necessarily the norm. Being environmentally conscious, moreover, does not mean that such examples are consistent with either good practice standards or even rise to the level of the minimally acceptable. Ample, arguably many if not most, proposed actions, with or without the environmental moniker, tend to fall well short of the possible when addressing such matters as cumulative effects, the systematic generation and evaluation of alternatives, a traceable approach to significance determination, and the management of impacts. IA requirements provide minimal performance standards. IA guidelines provide good practice guidance. Without such requirements and guidance the assessment and management of environmental effects is likely to be of highly variable quality, lacking in transparency, less open and inclusive than it should be, and less than systematic.

Impact Assessment Is Inherently Biased and Has Nothing to Contribute Methodologically The fact that IA originated as a field of theory and practice largely at the project level and has a tendency to focus on preapproval requirements does not mean that these are inherent, fixed qualities, arguably biases, of the field. IA has expanded rapidly in recent years to encompass all decision-making levels (e.g., policies, plans, programs) and other forms of impact assessment (e.g., SEA, SA, HIA, EcIA, SIA). Over the course of this expansion, considerable thought and effort has been given to procedural and methodological implications of operating at different decision-making levels and of addressing varying substantive environmental concerns and aspirations. These deliberations have resulted in a major reorientation of the field at both conceptual and applied levels. Major differences in approach and orientation are now evident among IA types and in the application of IA at varying decision-making levels. Particular care has been given to avoiding and minimizing any biases instilled in the early years of the field and to the implications of linking, merging, and transferring approaches among various IA types and levels.

The potential contribution of IA to policy making, to plan and program making, and to project planning is considerable. Substantial IA methodological development has occurred in addressing such matters as the prediction and interpretation of individual and cumulative effects, the generation and evaluation of alternatives, stakeholder involvement, and impact management. These advances complement rather than duplicate methodological advances in such related fields as policy making, plan and program

making, and project planning. Methodological synthesis across these and other related fields offers major potential benefits to each field individually and jointly.

3.4.4 Perspectives 1–3 Conclusions

Perspectives 1, 2, and 3 are valid to a point. They exemplify clear, often recurrent, deficiencies in IA practice. These deficiencies are not inherent or inevitable to IA practice. They also are overstated. Many positive examples, which run counter to Perspectives 1–3, are evident in IA practice. Moreover, there remains considerable operating room for IA practitioners and other parties to further facilitate, within the boundaries established by IA requirements and external restraints, good IA practice. Good IA practice also can contribute to regulatory improvements. It is possible, to some degree, for both regulators and practitioners, especially if they work cooperatively with other stakeholders, to push back and even redefine the "limits" that tend to inhibit IA quality and effectiveness. This does not mean that no constraints will remain regarding what is possible through good IA practice. But it does suggest that there is considerable middle ground between what is currently being achieved and what is possible to achieve. The question then becomes how best to narrow the gap between the possible and actual and, in the process, to make IA practice more relevant and influential. This entails shifting the orientation from the reactive (countering negative perspectives) to the proactive (constructive, systematic efforts to make IA more relevant and influential). The first step in this bridging process is the identification of critical concepts, frameworks, and research priorities.

3.4.5 Establishing a Foundation

This section bridges the reactive (responding to Perspectives 1–3) and the proactive (presenting an influential IA regulatory structure and an influential IA process). Concepts, integrative frameworks and knowledge base, and research priorities, pertinent to designing and managing relevant and influential IA regulatory and applied systems and processes, are described.

Concepts The term *relevance* encompasses a demonstrable and logical connection (implying a traceable link), a threshold for distinguishing between the relevant from the irrelevant (implying a subjective, value-full interpretation), a process (for establishing and applying relevance thresholds), one or more perspectives (as in who makes and is affected by the connection), and an outcome (as in the implications for decision making and the environment). Accordingly, then, IA requirements and practices are more likely to be "relevant" if they are logical, understandable, and credible; if the value-basis and procedures for applying those values are clear, consistent, impartial, and inclusive; if the values that drive IA requirements and processes match up with the perspectives and values of interested and potentially affected parties; and if the outcomes, both procedural and substantive, from IA accord with environmental objectives and the needs and preferences of stakeholders (IAIA, 1999).

Influence, in the context of IA, is about the power to affect decisions and actions that have potentially significant impacts on the environment. The traditional and conventional assumption in IA practice is that the only appropriate means of influencing such decisions is to inform decision makers through IA documents that objectively present relevant facts and analyses. IA documents are, in turn, the product of a systematic, rational planning process. This model for influencing decision making is tempered to the extent that it is recognized that summary documents are needed to facilitate understanding by decision makers and the public, and the process needs to be opened up to incorporate (usually only in a responsive sense) the concerns, knowledge, and preferences of interested and affected parties, including politicians and the public.

Not surprisingly, given this model, IA has, at best, a mixed and often limited record of influencing decision making. IA literature and, to a lesser extent, IA practice have increasingly recognized that the nexus between IA and decision making requires closer scrutiny. The route between IA and decision makers, for example, is generally filtered through a complex array of legal and administrative, formal and informal, institutional arrangements. Administrative actors assume a key role in the interpretation and treatment of IA-related outputs. Rather than a single decision maker, decisions are made by ill-defined and often rapidly changing coalitions of interests and individuals. These multiple decision-making parties (some elected and some not) bring to decisions their own values, preconceptions, interests, perspectives, beliefs, knowledge, and priorities. They may or may not be open to new information, knowledge and values. Decision makers also are influenced by many other circumstances, advisors, and (internal and external) stakeholders. The pattern of influences that shape decision-making processes and persuade decision makers often occur outside the boundaries of IA requirements and procedures. Even within IA processes "direct action" and advocacy by potentially affected parties, predefined positions by key actors, and informal political persuasion by, for example, proponents and industry representatives may be far more instrumental in IA-related decisions than IA documents.

The decision-making influence of IA documents and processes tends to be diminished even further if there is a major discord between the characteristics of IA processes and "real" decision making; if IA practitioners have minimal understanding of and make no effort to adapt to the organizational, institutional, or political environments in which they operate; if no acknowledgement is made of the subjective and value-full nature of IA interpretations and judgments; if IA "influence" is limited to preapproval phases and excludes postapproval decisions and implementation; if the

professional status and credibility of key IA professionals are not widely accepted and recognized; and if IA practitioners adopt an exclusively passive role in the advancement of environmental values and imperatives. IA practice can be especially ineffective in seeking to influence decision making if the IA process is closed, rational, and technocratic rather than open, collaborative, and democratic. Interested and affected parties are much more likely to "buy-in" to the conclusions and recommendations stemming from an IA process if all stakeholders have participated and shared in, from the outset, the generation and refinement of IA process outputs.

Even when IA professionals recognize the limits of the conventional approach to connecting IA practice to decision making, they are likely to have limited training in or knowledge about how best to go about narrowing the gap. They also are likely to have serious questions and concerns regarding if and the extent to which they should be responsible for analyzing, influencing, and redefining institutional and political institutions and procedures. As an "environmental" professional, the IA practitioner seeks to advance environmental values and perspectives. But questions commonly arise regarding how far environmental advocacy can be taken without transgressing professional ethical boundaries. Enhancing the decision-making effectiveness of IA, while clearly desirable, therefore, is a complex task with many potential dilemmas and uncertainties.

Purpose Driven A common critique of IA practice is that it is a largely vacuous paper-generating process—without direction and largely without a measurable positive outcome. Although ostensibly created as an instrument for environmental change, as illustrated in Figure 3.4, the route to such change is often so indirect (e.g., better environmental information and understanding eventually leading to an enhanced environment) that the environmental influence of the outcomes is cast into doubt. IA practice is more likely to be influential if, as illustrated in Figure 3.4, IA requirements and processes are directed and bounded by clearly defined environmental and sustainability objectives, criteria, thresholds, and trade-off rules (Gibson et al., 2005). Purpose-driven IA requirements and processes could be more directly linked to stakeholder values and beliefs (influential over whom?), to broader environmental purposes (facilitates the achievement of what?), and to related environmental management instruments (influential in conjunction with what?). Such tangible benchmarks could help in assessing the effectiveness of IA instruments in contributing to positive environmental outcomes. Interpretations of the influence of IA practice also would be served by clearly defined procedural (e.g., inclusiveness, collaboration) and substantive (e.g., empowerment) ethical standards.

Political Power and Discourse Political power is concerned with influencing the behavior of others. If IA requirements are largely circumvented and/or if the IA decision-making influence is minimal or untraceable, then it is not surprising if many consider IA requirements and processes to be irrelevant to the advancement of their interests. The political influence of IA requirements and processes is likely to be limited if they are designed and managed as if they were apolitical; if key stakeholders are able to shape outcomes by operating outside the political system (e.g., by lobbying, through direct political action); if IA outputs are not in a form conducive to stakeholder understanding and application (e.g., dense, obtuse documents); if key interested and affected parties are largely excluded (e.g., public involvement limited to public information and education); and if IA processes are closed, biased, discretionary, unsubstantiated, and imbalanced (Cashmore et al., 2010). IA requirements and processes are more likely to be influential if they proactively integrate political knowledge and concepts; if they encompass all potentially significant actions and effects; if the potential for circumvention is minimized; if they are designed and managed to facilitate constructive political dialogue, reflection, consensus seeking, and coalition-building; and if the exercise of political power is open, explicit, nondiscretionary, and substantiated (Runhaar et al., 2010; Devlin and Yap, 2008).

Frameworks *The framing of IA knowledge* is essential for IA practice to achieve greater influence. As illustrated in Figure 3.5, IA practice is likely to have limited influence if it is not effectively adapted to context, and if it makes no use of and no contribution to the IA knowledge base and to the knowledge derived from related fields of knowledge and practice.

Influential IA practice should suit the decision-making, institutional, political, spatial, temporal, societal, and environmental context (Fischer and Gazzola, 2006). It necessarily takes into account community values, attitudes, and beliefs; is designed and applied to fit within institutional arrangements; seeks to integrate community and environmental visions, inspirations, and knowledge; and incorporates the concerns, priorities, and challenges identified by interested and affected parties (Lee, 2006; Sinclair et al., 2008). It should provide decision makers and other parties with valuable information and knowledge. It should lead to greater understanding, involvement, collaboration, and empowerment by interested and affected parties, especially by parties traditionally excluded or under-represented in public and private decision making. To be influential in realizing the basic purpose of IA, it should be possible to demonstrate a direct path from IA practice to tangible environmental enhancements, and to positive sustainability contributions.

The ties between IA practice and the IA knowledge are critical when addressing IA influence. Influential IA practice makes systematic and appropriate use of objectives, good practices, principles, frameworks, concepts, and models derived from the IA knowledge base (i.e., theory testing). It contributes to the IA knowledge base by means of applied

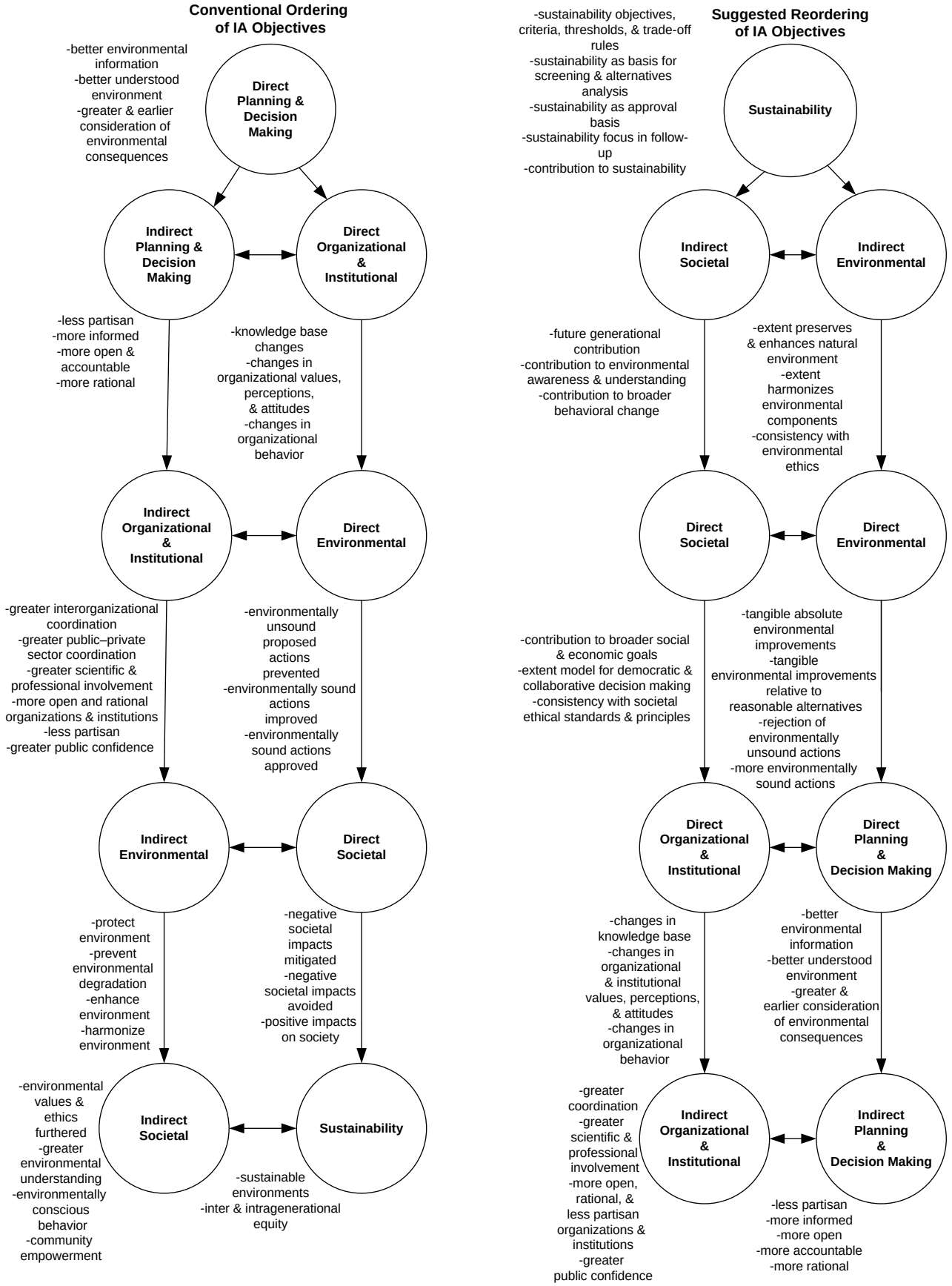

Figure 3.4 The ordering of IA objectives.

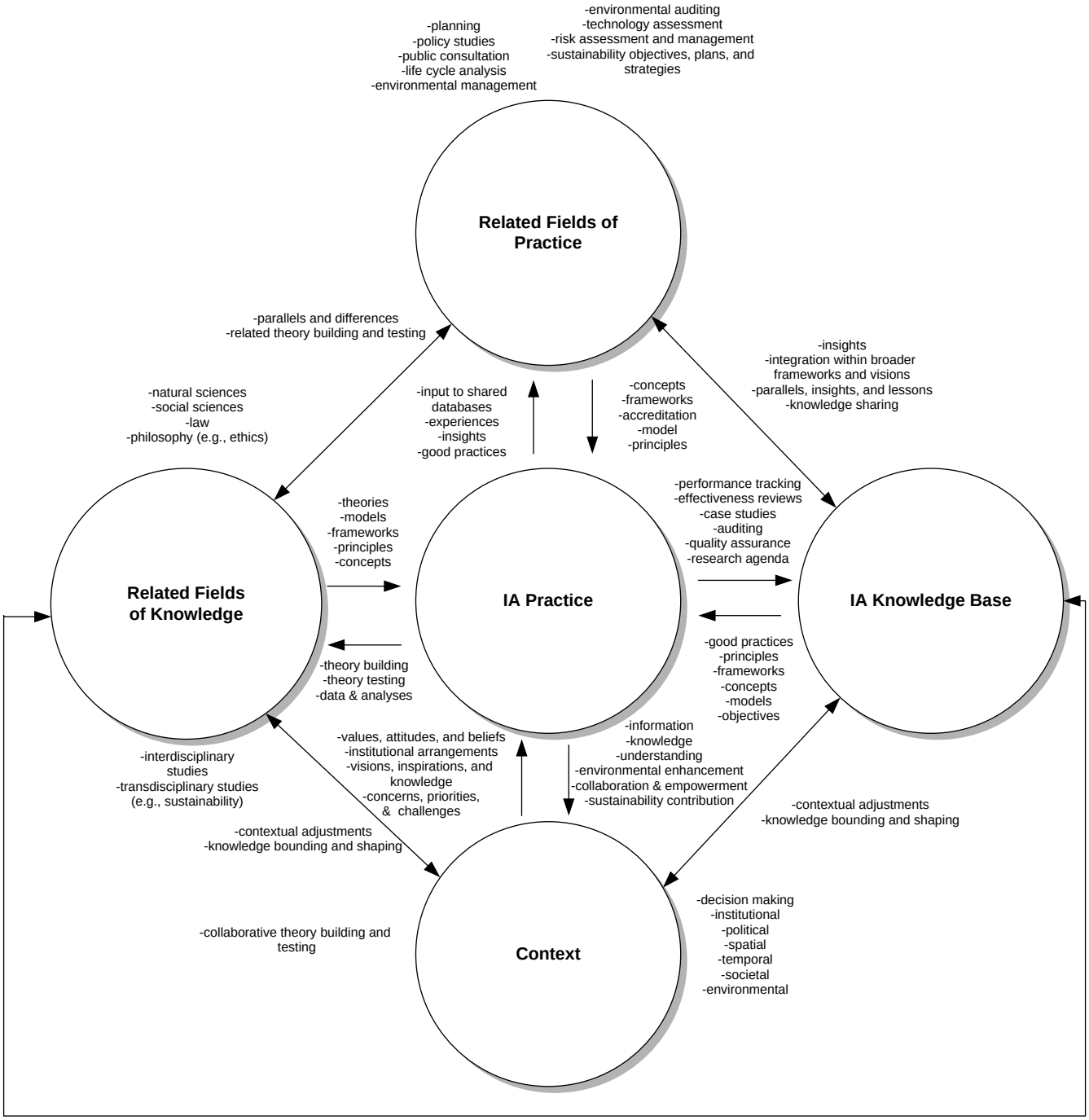

Figure 3.5 Greater influence by framing IA knowledge.

research, effectiveness reviews, case studies, the auditing of outcomes, performance tracking, and quality assurance initiatives (Cashmore et al., 2004; Doelle and Sinclair, 2006; Noble and Storey, 2005; Ross et al., 2006; Tzoumis, 2007). Influential IA practice also draws upon and contributes to related fields of practice (e.g., planning, policy studies, risk assessment, sustainability strategies, life cycle assessment, environmental management), and related fields of knowledge (e.g., natural sciences, social sciences, philosophy, interdisciplinary, and transdisciplinary studies) (Benson, 2003; Cashmore et al., 2010; Hanna, 2005; Devlin and Yap, 2008).

With related fields of practice, influential IA practice provides inputs to shared databases; shares experiences, good practices, and insights; and refines and adapts concepts, frameworks, models, principles, and accreditation procedures. With related fields of knowledge, influential IA practice contributes data and analyses and assists in

theory building and testing. It also applies, refines, and adapts pertinent theories, models, frameworks, principles, and concepts. In addition, influential IA practice is cognizant of and takes into account linkages among context, the IA knowledge base, related fields of practice, and related fields of knowledge.

The decision making–IA connection is critical if IA practice is to achieve greater influence. As illustrated in Figure 3.6, it is much more than simply IA practice informing decision makers, who, in turn, openly make more environmentally informed and justified decisions, which then leads to an enhanced environment. The possible interactions among stakeholders, decision making, IA institutional arrangements, and IA practice are many, varied, complex, indirect, and often subtle. If IA practice and institutional arrangements are to be more influential over decision making, there needs to be an enhanced understanding of the actual and potential nature of these interactions.

The connection between IA practice and decision making is largely mediated through a diverse array of IA institutional arrangements (e.g., legislation, regulations, policies, guidelines, objectives, standards). IA institutional arrangements can further, structure, focus, and legitimize the role of IA practice in influencing decision making. However, they also can constrain, bound, and inhibit the ability of IA practice to inform and guide decision making. Decision making can, in a positive way, implement, apply, interpret, adjust, fund, and direct IA institutional arrangements. But it also, in a negative sense, can bypass, exempt, ignore, politicize, and limit IA institutional arrangements. IA practice, to the extent that it is systematically audited, can help test, refine, reform, educate, facilitate, legitimize, and enhance the design and application of IA institutional arrangements. To the extent that there is a considerable gulf between the potential and achievements of IA practice, IA institutional arrangements can be undermined and ultimately jeopardized.

IA practice takes many forms (e.g., SEA, EIA, SIA, CEA, SA). IA institutional arrangements, together with decision-making links, vary, often dramatically, depending on the type of IA. Interconnections between IA practice and decision making (both direct and indirect) can be strongly affected by the nature and effectiveness of interconnections among IA types. IA decision-making links also vary depending on the decision-making level, whether the decisions are taking place before, during, or after the IA, and whether the IA role is to inform policy, program, planning, or project decisions. Oftentimes informal and indirect decision-making links are as or more important than direct, formal decisions. Ideally, IA practice, directly and indirectly, informs, inspires, focuses, structures, supplements, constrains, transforms, and substantiates decision making. Unfortunately, at times, it also can depoliticize (in the sense of masking the allocation of power) and rationalize (in the sense of propping up preexisting decisions) decision making (Cashmore et al., 2010). Again, ideally decision making helps to support, fund, ground, test, and transform IA practice. Again, unfortunately, decision making sometimes, reverses, bypasses, limits, and trivializes IA practice.

Stakeholders (e.g., politicians, regulators, industry, professionals, members of the public) assume a crucial role in determining if and to what extent IA practice and institutional arrangements influence decision making (Lee, 2006). Decision-making roles naturally vary, often dramatically, among stakeholder groups. Stakeholders can help focus, legitimize, facilitate, interpret, challenge, test, and refine IA practice (Alton and Underwood, 2003). IA practice can, in turn, help inform, educate, energize, and empower stakeholders. Or, IA practice can confuse and distract stakeholders from the "real" decision making. Stakeholders can help to inform, test, challenge, reform, and legitimize IA institutional arrangements. Stakeholders also will ignore or bypass IA institutional arrangements if they consider those arrangements to be irrelevant or contrary to their interests. IA institutional arrangements inform, educate, facilitate the involvement of, legitimize, and empower stakeholders. Or, they can distract and marginalize the decision-making role and effectiveness of stakeholders. The connections between stakeholders and decision-making connections are not always mediated through IA practice and institutional arrangements. Stakeholders often will seek to influence decision making through, for example, direct action, pressure, and lobbying (Devlin and Yap, 2008). They also sometimes seek to directly inform and educate decision making and decision makers (Cashmore et al., 2010; Devlin and Yap, 2008). Decision makers, in turn, can seek to inform, educate, legitimize, and empower various stakeholders. Or they can ignore or marginalize various stakeholders.

Choices for the design of an influential IA system, as illustrated by Figure 3.7, are many and varied. There are a host of public actions that can be subject to IA requirements (as with policies, plans, programs, and public works) or which can form part of IA institutional arrangements (as with legislation, regulations, guidelines, principles). Also, there are many private actions and joint public/private actions (e.g., major resource and energy projects) to which IA requirements can be applied. Many public actions and instruments frame IA requirements, indirectly influence IA (e.g., as with priority setting and the allocation of resources and funding), or have no connection to IA. Private plans and actions (e.g., environmental management) also can influence how IA requirements are applied or can serve as alternative or complementary instruments for infusing environmental values into decision making. Critical questions bearing on the influence of IA practice concern such matters as which public and private actions should be subject to IA requirements; what form IA institutional arrangements should assume; how IA requirements should be adapted for private actions; how IA should be connected to other public and private actions (e.g., environmentally quality standards, sustainability initiatives); the nature of international,

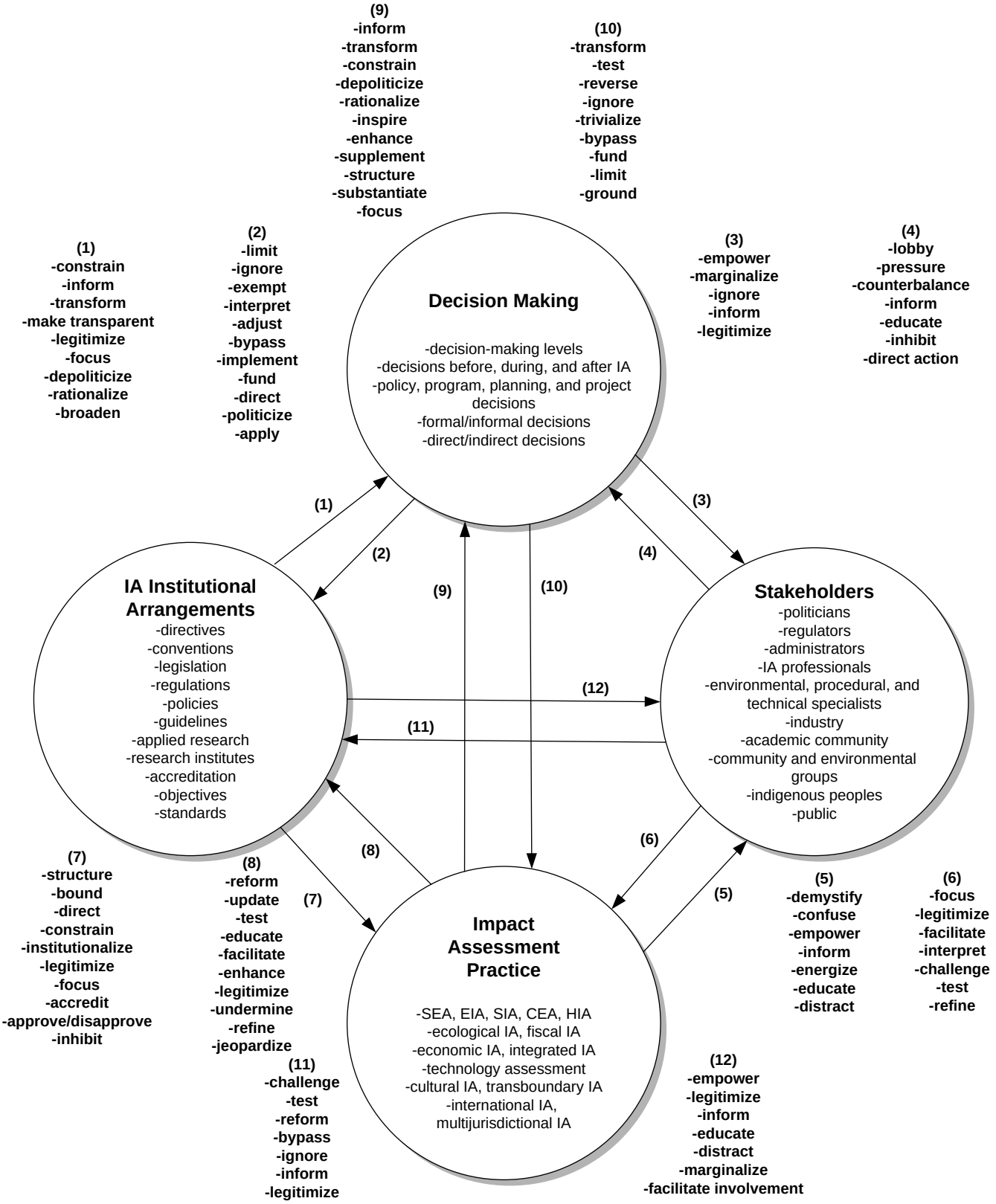

Figure 3.6 Connecting influence, IA, and decision making.

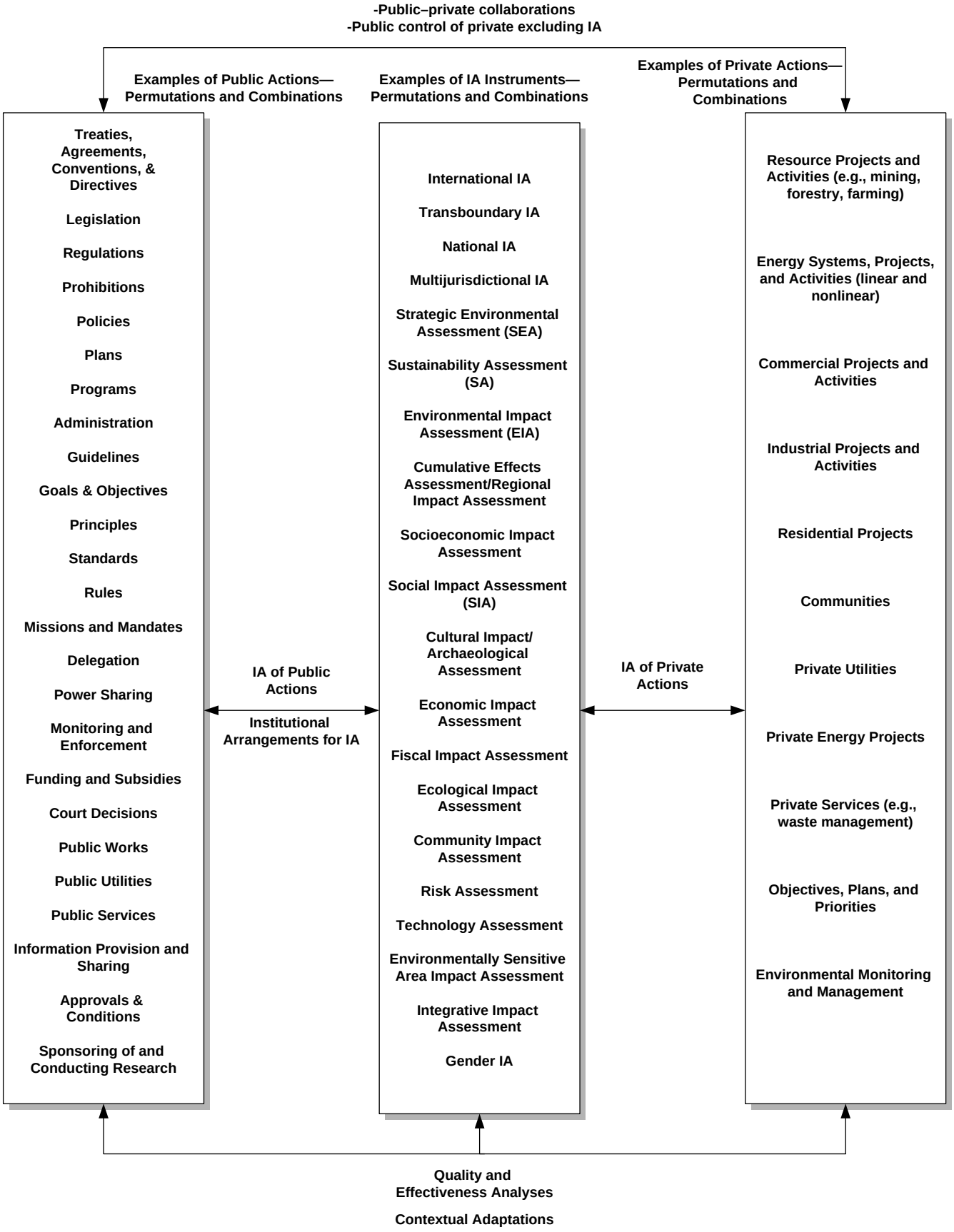

Figure 3.7 Choices for designing an influential IA system.

intergovernmental, and public/private partnership connections; the establishment of links among decision-making levels; the nature of interconnections among public/private actions (e.g., complementary, conflicting); and if and how IA purposes (e.g., a more environmentally sound and sustainable environment) can be achieved through IA and/or through alternative institutional arrangements (Doelle and Sinclair, 2006).

There are numerous IA types. The institutional arrangements (if any) for each type can vary considerably. No IA system can realistically encompass all IA types as separate entities. The question then becomes how best to combine IA types within integrated requirements, procedures, and documents. The influence of IA is open to challenge to the extent that major (or cumulatively significant) public and private actions, with potentially significant environmental consequences, are not subject or not adequately subject to either IA or comparable requirements. The suitability of IA requirements and procedures, both individually and collectively, can vary significantly depending on contextual characteristics. The question of which mix of IA and non-IA institutional arrangements is the most appropriate and influential from the perspectives of all interested and affected parties, under which contextual conditions, can only be determined based on the systematic application of IA quality and effectiveness analyses addressed from multiple perspectives (Cashmore et al., 2010; Ross et al., 2006; Tzoumis, 2007). The design of an influential IA system, accordingly, is a complex matter as each element must be designed separately, connected to complementary elements in different ways, adapted to context, tested through effectiveness analyses, viewed from multiple perspectives, and refined and adjusted over time as conditions change (Morrison-Saunders and Sadler, 2010).

Procedures for reorienting, linking, and integrating IA types can assume a vital role in making IA more relevant and influential. As illustrated in Figure 3.8, there are a diversity of IA instruments and actions encompassed within the overlap between SEA and EIA. EIA has frequently been criticized for not adequately addressing purpose and alternatives to the proposed action and/or for making decisions about such matters before EIA requirements are triggered and then rationalizing those decisions within the EIA in a perfunctory manner. Either way, potentially affected parties are effectively excluded from and are irrelevant to decision making. Conventional EIA practice, at the project level, also has been criticized for the weak treatment of cumulative, regional, and transboundary effects, and for a failure to adequately address interjurisdictional and international concerns and perspectives. SEA in its many forms (e.g., plan, program, policy) can frame the treatment of such issues at the EIA project level, and ensure that all stakeholders are directly involved in such front-end decisions when they matter (Benson, 2003). EIA, in turn, can ground and extend SEA at the project and activity levels, and provide a more regional and local perspective. SEA and EIA, effectively integrated with each other and with decision making, are, accordingly, likely to become more credible and relevant.

Greater IA influence also is more likely to occur if effective interconnections are drawn among SEA types and among EIA types. The linking of SEA types and EIA types tends to be more effective if structured by systematic, transparent, and collaboratively formulated conceptual and regulatory frameworks. Sustainability assessment (SA) has the potential to transform both SEA and EIA. SA, either as separate strategies and plans or as an array of visions, values, principles, thresholds, and trade-off rules, can encompass, structure, reform, complete, and make more influential SEA and EIA practice (Bond and Morrison-Saunders, 2011; Hanna, 2005; Noble and Storey, 2005; Sinclair et al., 2008). SEA and EIA, in turn, can test and refine SA concepts, principles, and methods (Noble and Storey, 2005). The same type of mutually beneficial relationship is possible between SA, SEA, and EIA and related fields such as risk assessment, technology assessment, environmental auditing, and life cycle assessment (Benson, 2003). Greater influence also is more likely to be achieved if IA types, both individually and collectively, are reoriented with an increased emphasis upon purpose and substantive outcomes over process, maximizing the positive over minimizing the negative, synthesis, and interdisciplinary integration over disciplinary analysis, adaptation over the rigid and deterministic, postapproval management over just preapproval analysis, multiple over unitary perspectives, political mobilization and empowerment over apolitical expert-centered analyses, learning/and collaboration over rational and scientific analyses, precaution over risk reduction, and value-full/subjective over value-free/objective approaches (Cashmore, 2004; Cashmore et al., 2004; Doelle and Sinclair, 2006; Jones and Slinn, 2008; Morrison-Saunders and Sadler, 2010; Noble and Bronson, 2006; O'Faircheallaigh, 2009).

Knowledge Base and Research Priorities Making IA more influential necessitates a better understanding of the extent to which IA practitioners hold and embrace Perspective 1, as well as the reasons for and legitimacy of those views, and the implications of Perspective 1 for IA practice and for decision making. It also is necessary to understand how widely and profoundly Perspective 2 is held by various IA stakeholders. Again, understanding the reasons for and legitimacy of those views, together with IA practice and decision-making implications, is crucial to making IA theory and practice more influential. To the extent that Perspectives 1 and 2 reflect the reality within which IA operates, it is important to draw upon the constructive insights that the two perspectives offer, and to build upon available initiatives for countering the perspectives when they tend to inhibit and undermine IA's effectiveness. Particular emphasis should be placed on an enhanced understanding of how and why various stakeholders choose to influence decision making outside IA requirements and processes, and which measures

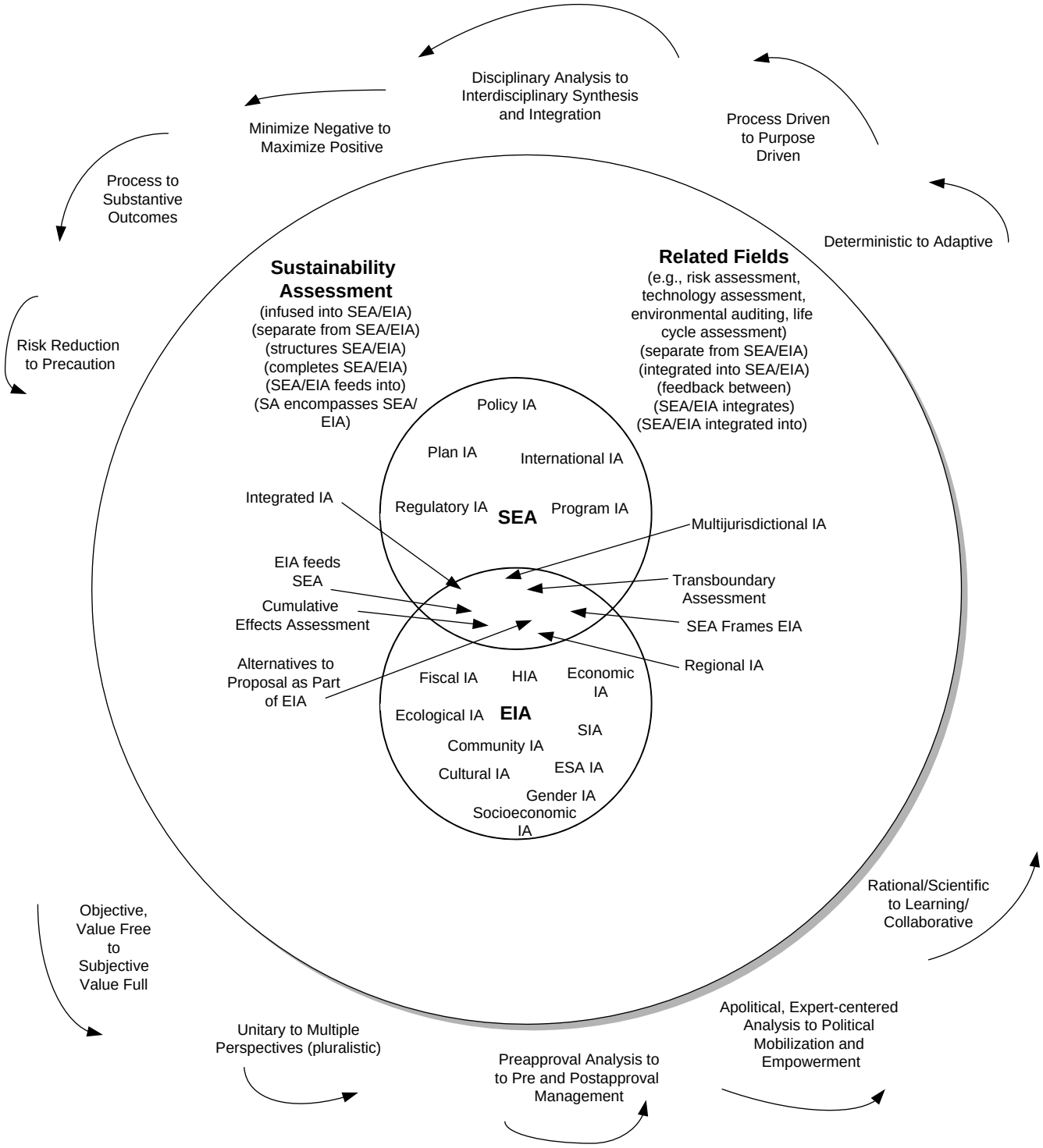

Figure 3.8 Greater influence by reorienting, linking, and integrating IA types.

should and should not be used to avoid the need, desire and, as appropriate, ability to circumvent IA requirements and processes. Preferably, initiatives to counter the two perspectives, where warranted, can be progressively integrated within alternative research and application strategies, explored from multiple perspectives, for making IA more influential of both stakeholders and decision making. Also, preferably such strategies should draw upon and be tested in collaborative stakeholder forums.

The influence-related concepts point to the need for more effective links between IA theory and practice, for better IA follow-up and auditing, and for formulating and applying IA effectiveness analyses from multiple perspectives. Both the procedural and substantive effectiveness of IA institutional

arrangements and IA processes and methods need to be more systematically evaluated. Key applied research priorities include the enhanced design of IA tracking systems; the more effective integration into IA practice of environmental and sustainability objectives, criteria, thresholds, and trade-off rules; the formulation, application, and testing of procedural and substantive ethical standards; an enhanced understanding of the existing and potential role of IA in the exercise of power in decision making; and the current and potential role of professional accreditation in IA practice.

The influence-related frameworks underscore the need to more effectively draw upon insights and lessons, appreciating differences, from related fields of practice. Better practice in adapting IA to varying contexts is crucial to making IA more relevant and influential. Closing the gulf between IA theory and practice must be a priority. Much more attention needs to be devoted to exploring the complex web, both existing and potential, connecting IA institutional arrangements, IA practice, decision making, and stakeholders. More attention needs to be devoted to designing and evaluating the relative merits of alternative IA systems—both individual components and overall systems. Systematic analyses need to be undertaken of the effectiveness of alternative frameworks and approaches for linking and integrating SEA and EIA, SEA types, EIA types, IA and related fields, and SA and EIA/SEA. Alternative frameworks and procedures also need to be explored for shifting the orientation of IA practice more toward the adaptive, the purposeful, the substantive, the integrative, the positive, the precautionary, the value-full, the pluralistic, the political, and management.

The preceding initiatives need to be integrated within coherent, transparent, broadly supported, and reliably funded applied IA research strategies. Greater IA influence entails particular regard to identifying and overcoming the barriers that inhibit more effective and influential IA practices. It also necessitates integrating multiple perspectives.

3.5 INSTITUTING AN INFLUENTIAL IA PROCESS

3.5.1 Management at the Regulatory Level

Each of the four jurisdictions (the United States, Canada, Europe, Australia) has instituted a range of measures potentially conducive to greater IA decision-making influence. Table 3.1 provides an example list of measures introduced in the four jurisdictions that potentially have a bearing on decision-making influence.

As is immediately evident from Table 3.1, such measures, at best, facilitate the potential for, rather than ensure, greater decision-making influence. The potential for greater decision-making influence is, for example, enhanced if decision making occurs within rather than prior or subsequent to the IA process (e.g., mandatory scoping, early public involvement while choices are still open, the bounding of political and administrative discretion, various tiered IA requirements are broadly applied to different proposal types and decision-making levels); if the use of exemptions is fully substantiated and not abused; if requirements ensure that the scope of choices is broad rather than narrow (e.g., reasonable alternatives as collaboratively determined, broad definition of environment and effects including cumulative and transparent effects); and if the IA process is directed and bounded by explicit environmental principles, priorities, mandates, imperatives, and limits (especially with reference to sustainability, biodiversity, and climate change). Decision-making influence also can be facilitated if specific decision-making considerations, which must be considered during each IA process stage, are specified; if IA specialists must be accredited; and if the methods employed to evaluate effects and compare choices and the criteria and procedures used to determine significance must be explicit, substantiated, and consistent with good practice standards.

The role of the public in influencing and shaping decision making can be aided if ample public notice is provided prior to each decision; if all pertinent documents and analyses are readily available in a timely manner; if public involvement opportunities, with sufficient time and resources (e.g., participant funding) for meaningful involvement, are provided prior to each process decision; if the range of interested and affected public(s) is not restricted; if the potential for meaningful public involvement is not inhibited by formal and legalistic participation procedures; if ready and timely electronic access is provided to all pertinent documents; if access to mediation is provided for and actively encouraged; if documents and analyses are presented in a manner conducive to public understanding and involvement, consistent with the value and interests of each party (e.g., explicit consideration of distributional issues, consultation designed to meet the needs and characteristics of each stakeholder); if proactive public participation, including delegation of public participation responsibilities, is instituted for traditionally excluded parties (e.g., aboriginal peoples); if the basis for decisions must be substantiated (taking into account explicit decision-making criteria and public comments and employing explicit and open decision-making procedures); if the views of interested and affected parties must be made explicit together with their role in decision making, if there is the right to appeal decisions (i.e., access to justice); and if opportunities are provided for the delegation to and collaboration/harmonization with lower decision-making levels. In the latter case, IA substitution/delegation should only be permitted if public participation performance standards are not compromised; explicit criteria, standards and procedures, and decision rules are applied; adequate resources are provided; decisions are transparent and subject to appeal; and substitution/delegation is subject to independent performance evaluation.

Decision making is potentially more transparent and open to external influence if interconnections with related requirements (including international obligations) are made explicit and are systematically considered; if requirements are adjusted to suit decision-making levels, IA types, and

Table 3.1 Positive and Negative Regulatory Examples Regarding Decision-Making Influence

United States	Canada	Europe	Australia
(+) NEPA applied to a broad range of major actions	(+) Application broadened to include Crown corporations, projects on native reserves, and airport authority projects	(+) Proposed Project Directive (PPD): more explicit and transparent screening	(+) The explicit identification of matters of national environmental significance
(+) Detailed and explicit scoping requirements	(+) Focus on major projects with potentially significant adverse effects	(+) PPD: mandatory scoping; explicit requirements	(+) The explicit identification of principles of ecologically sustainable development; minister required to take into account
(+) Detailed and explicit significance determination procedures and criteria	(+) Greater provincial influence with substitution/delegation opportunity	(+) PPD: explicit significance criteria that must be taken into account and show to have been considered	(+) Cross referencing of international environmental obligations
(+) Requirements to substantiate methods	(+) Greater clarity in role definition, especially coordinative responsibility of CEA Agency	(+) PPD: requirement to provide explicit reasons for decisions and how environmental considerations integrated	(+) Scope, documentation, and public notification and comment requirements for various IA documents
(+) Extensive provisions to ensure review process focused, timely, and efficient	(+) Follow-up requirements and enforcement penalties increase the potential for project modifications	(+) PPD: detailed requirements regarding information to be provided to public	(+) Postapproval decision making addressed through annual compliance audits and environmental management plan requirements for selected IA documents
(+) Detailed intergovernmental, agency, and public notification, coordination, and involvement requirements	(+) Auditing and quality assurance provisions	(+) PPD: requirement to consider reasonable alternatives (as part of scoping and as defined by competent authorities)	(+) Acceptance by government of proposals to strengthen use of SEA; undertake regional environmental planning, and ecosystem management; make IA accreditation criteria, standards, and procedures more open and explicit (including review and performance auditing and oversight); provide reasons for significant decisions; introduce measures to make decision making more open and focused; make greater use of public inquiries and joint assessment panels; provide enhanced electronic access, ensure longer public comment periods; and strengthen monitoring and auditing
(+) Proposed measures to enhance sustainability capacity of EPA	(+) Participant funding for all projects	(+) PPD: mandatory monitoring	
(+) A range of measures to modernize and reinvigorate NEPA	(+) Emphasis on aboriginal consultation	(+) PPD: comprehensive definition of effects, including cumulative effects	
(+) Retrospective regulatory review initiative	(+) Enhanced Internet access	(+) PPD: focus on environmental priorities (e.g., biodiversity, climate change)	
(+) Pilot project to facilitate innovation in IA review	(−) Opportunity for involvement only after major decisions made	(+) PPD: quality control mechanisms, including accreditation	
(+) Enhanced Internet access	(−) New requirements leave a large degree of ministerial and cabinet discretion	(+) PPD: requirement to summarize comments received	
(+) Requirement to address reasonable alternatives	(−) Tight time limits	(+) PPD: focus on major projects	
(+) Explicit consideration of environmental justice	(−) Exclusion of all but major projects and narrow and selective definitions of environment, effects, and alternatives	(+) PPD: measures to facilitate coordination with related assessments	
(+) Detailed document content requirements	(−) Explicit opportunity to approve even when significant adverse environmental effects	(+) Broad application of SEA directive; SEA report must be taken into account, influence demonstrated, mandatory scoping, explicit significance criteria, reasonable alternatives, and reasons for alternatives selection, required consideration of transboundary and cumulative effects, and required monitoring	(−) Stipulation that social and economic matters must be considered and decisions placed within context of country's social and economic needs
(+) Initiatives to more effectively address sustainability and climate change	(−) Lack of a link to strategic level	(+) SEA procedures for trade agreements and EU policies and regulations	
(−) Limited application in practice of NEPA to strategic level	(−) Narrow definition of interested party	(+) Extensive studies of effectiveness	
(−) Emphasis of procedure over substance	(−) Infrastructure project exemptions	(−) PPD: possibility of less influence for nonmajor projects	
(−) Concerns about increasing costs and timing associated with fears of litigation	(−) Delegation/substitution could inhibit influence if process less open	(−) PPD: potential inhibiting role of time limits	
(−) Concern that public role largely one of opposition rather than active participation	(−) Elimination of National Round Table on the Environment and Economy	(−) PPD: no enhancements in access to justice	
	(−) Process for reviewing cabinet submissions limited and largely closed	(−) Tiering and coordination mechanisms not well defined	

contextual characteristics; if major, especially controversial projects are subject to open and independent hearings/reviews (providing governments must explicitly respond to all findings and recommendations); if decision making is extended into the postapproval phase (e.g., mandatory follow-up requirements, noncompliance penalties, independent third party auditing); if lessons conducive to enhanced public and agency influence are audited and integrated into IA requirements, guidelines and procedures; if the roles of all major parties are clearly defined (especially coordinative roles); if impact significance criteria and procedures are included in requirements; and if the application of IA requirements is informed by independent effectiveness of external involvement analyses.

The measures listed above provide a cross section of potential approaches for enhancing IA decision-making influence. Care must be taken not to "graft on" measures appropriate in one setting to another setting in which the measures may be entirely inappropriate. There is a possibility that measures applied in another jurisdiction may appear, on the surface, to be highly desirable. But these measures may not have been scrutinized for effectiveness and unintended side effects and/or stakeholder perspectives regarding desirability and effectiveness could vary dramatically. Nevertheless, a selective overview of measures employed in the four jurisdictions does provide an initial sense of the possibilities for enhancing IA decision-making influence through regulatory reform. None of these measures are likely to be effective if a political commitment is lacking and if the resources provided are inadequate. Care should be taken to minimize bias in favor of proponents, rational-technical experts, entrenched interests, and bureaucratic elites. Good practice approaches to facilitating enhanced IA decision-making influence are addressed in greater detail in Section 3.6.

3.5.2 Management at the Applied Level

Figure 3.9 depicts an example of an influential IA process. The figure and the process description that follow address the concerns raised by the two perspectives and draw upon the concepts, frameworks, research priorities, and good practices presented for making IA requirements and processes more influential.

Core Process Description The core elements of the example influential IA process are similar to the SEA and EIA processes depicted in Chapter 2. A screening process determines if the SEA or the EIA process will be undertaken. The process is designed through a scoping procedure that sets the context; determines the process and document purpose; identifies key issues, problem areas, and stakeholders; bounds the process; establishes the principles, objectives, and imperatives that will guide and structure the process; identifies potential alternatives; and indicates any linkages to related public and private actions (Ross et al., 2006). Scoping at the SEA level includes characterizing baseline conditions. Scoping at the EIA level also identifies valued environmental components (VECs), and frames the process within broader policies, plans, and programs. It then goes on, in a separate step, to characterize proposal characteristics and baseline conditions. Scoping is sometimes detailed in a draft and final document, and can be subject to public and agency review. The assessment stage, with both SEA and EIA processes, identifies, screens, and evaluates alternatives, and then optimizes (through mitigation and enhancement) the preferred alternative (O'Faircheallaigh, 2009). Assessment, at the EIA level, is undertaken at a greater level of detail. A systems perspective is maintained throughout (Bond and Morrison-Saunders, 2011; Hanna, 2005). Individual and cumulative effects are fully assessed (Benson, 2003; Hanna, 2005). The SEA and EIA analyses are documented in draft and final reports, and subject to agency and public review. The reports inform, guide, and substantiate decision making. The proposed action is then implemented (if approved), and subject to monitoring and follow-up. Adequate resources are allocated to impact management and to the assessment of effectiveness (O'Faircheallaigh, 2009). Links, where appropriate, are made to related decision-making areas.

Process Refinements Several refinements have been made to the core IA process to make it more relevant to stakeholders, decision makers, and IA objectives. The IA process, at both the SEA and the EIA level, is purpose-driven (Cashmore, 2004). Substantive objectives, principles, and imperatives drive and structure the process (Noble and Storey, 2005). The net environmental contribution of the proposed action is assessed, both as a basis for decision making, and as a means of assessing the intended and unintended consequences of implementing the proposed action. Decisions and decision makers are not simply informed. IA and decision making are integrated. Decision making is transparent (encompassing both IA and non-IA considerations), applied (demonstrated exercise of power), and fully substantiated (Cashmore et al., 2010). A concerted effort is made to systematically link and integrate SEA and EIA outputs to related decisions and actions. At the SEA level, related policies, plans and programs, and other SEAs are linked and integrated. At the EIA level, a particular effort is made to transcend individual disciplines and EIA subtypes (e.g., SIA, EcIA, HIA) (Hanna, 2005).

The influential IA process incorporates more continuous forms of stakeholder involvement from the outset (Sinclair et al., 2008). It adapts and applies good practice knowledge and methods. It shares lessons and insights. It systematically assesses effectiveness. It integrates data and knowledge into broader databases. The SEA process bounds, directs, and frames the EIA process (Benson, 2003). As a result, the EIA process can more readily address need, alternatives to the project, cumulative effects, transboundary effects and interjurisdictional connections. The EIA process, in turn, feeds

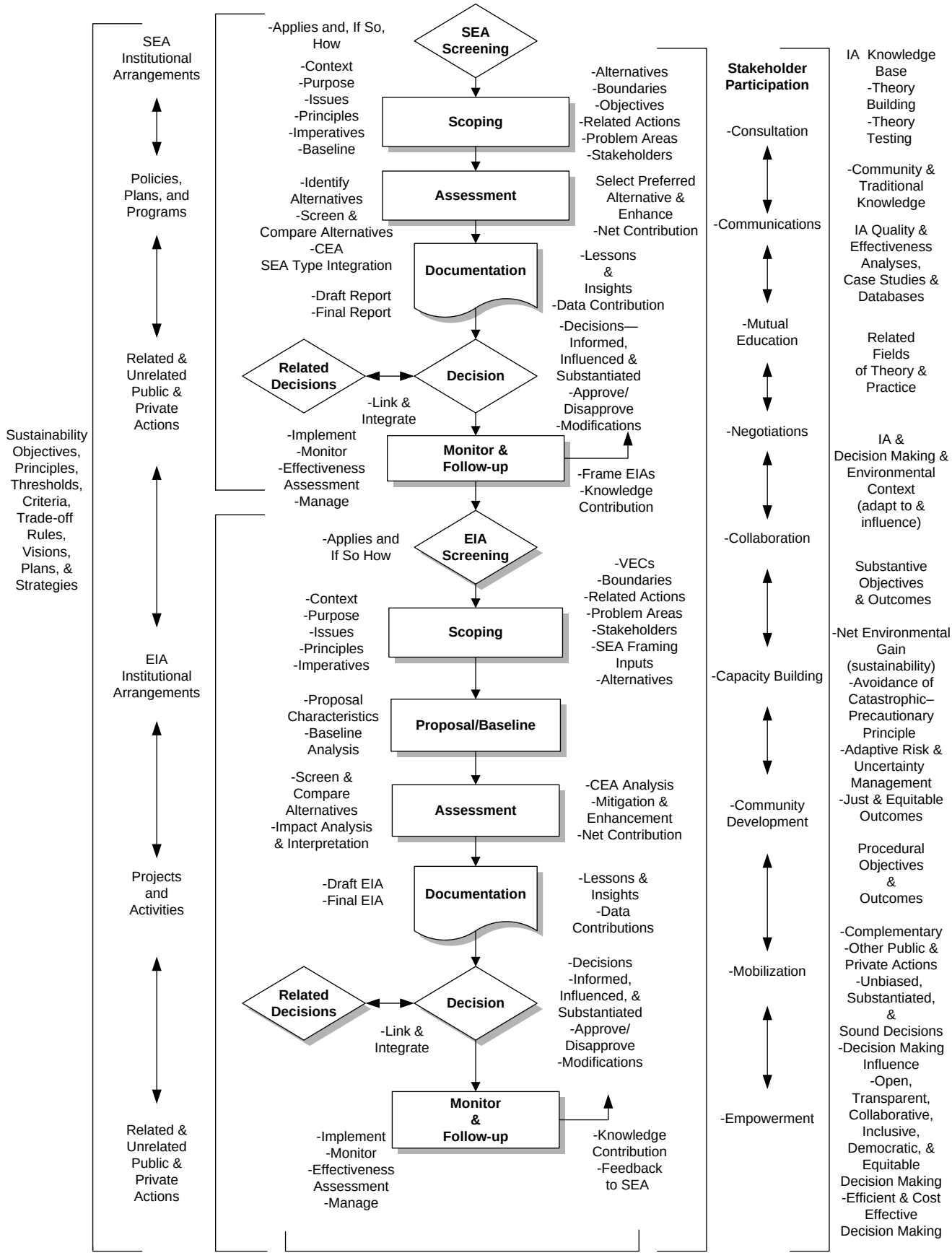

Figure 3.9 Example of an influential IA process.

back data and analysis to SEA processes. Differences among IA types are taken into account.

Framing the Process An influential IA process proactively identifies and seeks to realize environmental ends. Both SEA and EIA are infused by sustainability values, visions, objectives, principles, criteria, thresholds, and trade-off rules derived from sustainability plans and strategies (Benson, 2003). SEA and EIA scope and contents also are bounded and structured by institutional arrangements. Major public and private actions, both individually and collectively, with the potential for significant environmental effects, are addressed by SEA/EIA institutional arrangements and/or some combination of SEA/EIA institutional arrangements and complementary regulatory and administrative measures. The overall IA system is designed and managed to facilitate the realization of tangible environmental objectives. The credibility of such combinations of measures is likely to be greater when such measures, and related decision making, are transparent, systematic, substantiated, and inclusive of stakeholder interests and perspectives.

An influential IA process is more credible and relevant to potentially interested and affected parties when ample provision is made for stakeholder involvement at every step in the IA process (Doelle and Sinclair, 2006). Stakeholder acceptance of the process is more likely if ample provision is made for all stakeholders to be actively involved, and if the form of involvement extends beyond one-way consultation, communications, and education to encompass more interactive forms of involvement such as negotiations, collaboration, capacity building, community development, mobilization, and empowerment (Doelle and Sinclair, 2006; Petts, 2003).

In order to avoid the dismissal and circumvention of IA requirements and processes on the grounds that they are little more than empty "paper pushing" exercises, an influential IA process is guided and structured by explicit, substantive, and procedural objectives. An IA process is more likely to be considered influential if tangible environmental performance standards such as net environmental gain, the application of the precautionary principle, adaptive risk and uncertainty management, and just and equitable outcomes (especially for vulnerable populations and environmental features) are applied. Procedural objectives such as demonstrably complementary to other public and private actions and forms of environmental management; unbiased, substantiated, and sound decisions; demonstrated stakeholder decision-making influence; transparent, collaborative, inclusive, democratic, and equitable decision making; and efficient and cost-effective decision making, which bound and structure the IA process, also are likely to increase the credibility and influence of the IA process from multiple perspectives.

The influence of the IA process will quickly dissipate, from the perspective of many stakeholders, if the level of IA practice does not evolve and improve in conjunction with the IA knowledge base. There has to be a clearly evident "learning curve." IA knowledge has to be systematically adapted and integrated into the IA process (i.e., theory testing and refinement). The IA process, in turn, has to contribute to the IA knowledge base (i.e., theory building), through, for example, IA quality and effectiveness analyses, case studies, databases, and process and document performance rating systems (Tzoumis, 2007).

The influence of the IA process is further enhanced when community and traditional knowledge are effectively integrated; when effective use is made of knowledge and methods derived from related fields of theory and practice; and when the IA process knowledge base and methods are effectively adapted to the physical, ecological, social, economic, cultural, institutional, and decision-making context. Concomitantly, as an instrument for positive change, an influential IA process actively seeks to positively influence the decision making and environmental context.

Stakeholder Perspectives The influential IA process, as characterized in Figure 3.9, is unlikely to be uniformly embraced by all stakeholders. Influence, from the perspective of proponents and other private sector parties, is likely to be viewed largely in terms of an efficient and cost-effective planning and decision-making process, with explicit, consistent, focused, timely, and not unduly burdensome, requirements and procedures. Decision makers will tend to be looking for sound, succinct, and understandable decision-making advice and outcomes, consistent with their values, likely to benefit their constituents, and unlikely to engender a storm of criticism and controversy that could reflect back on them. Regulators will tend to look favorably on an IA process that is demonstrably compliant with and supportive of the mandate and mission of their agency, and that facilitates the expeditious execution of their IA and non-IA responsibilities. IA practitioners will tend to favor an IA process that is consistent with regulatory requirements and good practice performance standards, results in procedural and substantive outcomes supportive of their values and professional ethical standards, and can be undertaken within available resources.

Members of the public will tend to consider an IA process relevant and influential when it is directly tied to decision making that affects their concerns and interests; when it facilitates the achievement of community goals and aspirations; when potential regional and local adverse effects are prevented, minimized, and compensated for; when IA-related decision making is open, transparent, inclusive, collaborative, and democratic; when environmental outcomes are positive and equitable; when explicit and effective use is made of community and traditional knowledge; when public concerns, preferences, and interests are respected and integrated into the process; and when decision-making procedures and outcomes facilitate community development, mobilization, and empowerment. Members of environmental groups will tend to judge the influence of an IA process largely in terms of the extent of decision-making

influence (i.e., will it be the primary basis for decision making?) and the extent to which it facilitates the achievement of tangible environmental outcomes (both in absolute terms and relative to alternative actions and decision-making and environmental management instruments). Members of the academic community will likely focus on the potential role of the IA process, relative to other environmental management instruments, in contributing to human knowledge, and in advancing procedural (e.g., more open, collaborative, and democratic decision making) and substantive imperatives (e.g., sustainability).

These varying influence performance standards are not necessarily conflicting. It is possible to design and manage an IA process that effectively integrates and balances different stakeholder perspectives. However, consensus is not always possible or desirable. If the ultimate standard is positive environmental outcomes, some proposed actions will need to be rejected or severely modified, and some IA processes will necessarily be more costly, time-consuming, and onerous than some parties desire. At the same time, a highly complex, lengthy, and burdensome IA process is not necessarily conducive to a higher level of environmental quality. The net result over time, over numerous IA processes, tends to be the withdrawal or rejection of environmentally desirable proposals, the continuation and expansion of existing environmentally less desirable activities, a greater propensity to circumvent the process, and streamlining "reforms" to IA institutional arrangements that severely undermine IA effectiveness.

Steering a path that effectively links and balances varying perspectives concerning the essential attributes of an influential IA process is far easier when the major stakeholders respect the views, concerns, and interests of one another; when they cooperatively and collaboratively work together to facilitate the achievement of common ends; and when the IA process is designed and managed to facilitate cooperation and communications among the major parties. The likelihood of achieving a common standard of influence is greatly diminished if the views, interests, and potential contributions of other parties are summarily dismissed; if data, analyses, and interpretations are biased, misrepresented, or unsupported; if the competence of IA and other pertinent practitioners is perceived to be doubtful; if the process is poorly adapted to the context; and if one or more parties seek to or do circumvent the process.

Process and Practice Variations by IA Type The desire to influence decision making is a recurrent theme in all forms of IA practice, as summarized in Table 3.2. Examples of decision-making-related themes that cut across IA types include the desire to broaden the decision-making agenda to encompass environmental concerns and a broader range of choices; to alter how proponents, governments, and other stakeholders go about making and implementing decisions; to make a difference in both how decisions are made and the environmental outcomes that flow from those decisions; and to enhance public access to, involvement in, and influence over those decisions that may directly or indirectly affect their lives. Increasingly all IA types emphasize the infusion of sustainability aspirations, principles, and perspectives into decision making, albeit with varying interpretations. All IA types stress the importance of follow-up and the auditing of effectiveness as means for facilitating enhanced decision-making influence. All recognize the need for capacity building if the decision-making role of parties, traditionally excluded from decision making, is to be facilitated. There also are many differences among IA types in the manner in which they address interconnections between IA practice and decision making.

Sustainability Assessment (SA) SA is concerned with more than influencing decision making by broadening the range of environmental considerations on the decision-making agenda. SA aims to reorient decision making toward the realization of sustainability ends, to ensure adherence to sustainability limits and principles, and to move decision-making outcomes away from unsustainable practices. It strives to inculcate an environmental ethic into decision making, to foster more holistic environmentally oriented decision making, to facilitate links and integration among all forms of environmental requirements and decision making to extend the temporal (e.g., future generations) and spatial (e.g., a global and a local perspective) boundaries of decision making, to broaden the range of choices seriously considered in decision making, to reorient decision making away from simply minimizing the negative to realizing mutually reinforcing gains on multiple fronts, to facilitate more bottom-up participation and influence in decision making, and to favor more cautious and adaptive decision-making practices.

Strategic Environmental Assessment (SEA) The relationship of SEA practices and decision making is an especially close one. SEA and decision making more than overlap—the boundaries are blurred and often indistinguishable. With SEA it is not so much IA informing decision making but rather SEA as a tool for redefining and reforming both formal and informal institutional structures and procedures that directly and indirectly influence the environment. Understanding, adapting to, and reshaping context is a central attribute of influential SEA practice. Particular emphasis is placed on such themes as identifying key decision-making leverage points, fostering multilevel and directional integration, proactively facilitating organizational learning, adapting to and influencing an inherently uncertain and continuous decision-making environment, the need to overcome institutional barriers and resistance, the importance of facilitating collaboration and conflict-resolution, and SEA as a tool for enhancing decision-making capacity.

Environmental Impact Assessment (EIA) At the project EIA level the relationship to decision making is more structured. Emphasis is placed on effectively informing

Table 3.2 Influential IA Practice Characteristics by IA Type

Influential SA Practices	Influential SEA Practices	Influential EIA Practices
Applies directly, or through other IA or other instruments, to all public and private actions that might have significant effects on sustainability prospects	Frames with formal, transparent, consistent, and explicit SEA institutional requirements and learns from informal SEA experiences	Complies with all EIA requirements, carefully interprets guidelines and legal precedents, and systematically draws upon IA knowledge
Treats as umbrella for integrating other IA types, providing not serving as vehicle for promoting prevailing economic agenda	Seeks to enhance understanding of political, institutional, and cultural context; designed to fit within and to progressively influence	Roles, tasks, and responsibilities clearly defined
Establishes in law requirement that decisions demonstrably consistent with and supportive of sustainability	Ensures infrastructure in place to provide data necessary to support SEA	Process designed and managed to be efficient and cost-effective
Uses broad sustainability visions, goals, strategies, principles, objectives, criteria, and indicators to guide the process	Employs multiple spatial and temporal scales	Draws upon IA procedural design choices and carefully matches to context
Uses sustainability principles, criteria, thresholds, and decision-making rules to bound and structure the process; explicitly links to environmental and regional social limits and capacities	Is guided by and infused with holistic sustainability and environmental values, visions, goals, objectives, and criteria	Basis for strengths and limitations of all data sources, boundaries, assumptions, analyses, interpretations, and conclusions, explicit and fully explained and substantiated
Addresses the environment holistically, including explicit references to cumulative effects management, and intra- and intergenerational equity	Systematically fosters horizontal integration	Process focuses on key issues and on potentially significant individual and cumulative effects
Incorporates explicit links to international laws, conventions, and other global governance mechanisms	Systematically addresses interrelationships and fosters integration among overlapping, complementary, and competing objectives, criteria, knowledge systems, and interests	Need and alternatives to the proposed action, and alternative means of carrying out the proposed action openly assessed
Explicitly links IA levels and types, and to institutional and organizational sustainability and laws, strategies, policies, and plans, including identification of conflicts	Defines alternatives broadly to encompass both alternatives to meet a need or problem and alternatives to an existing policy, plan, or program	Employs rigorous impact prediction, CEA, and impact management methods
Treats contribution to sustainability as the main test of purposes, options, and practices	Links SEA to emergent, informal strategies, and formal decisions at all levels; identifies and takes advantage of key leverage points/policy windows	Uses holistic, interdisciplinary perspective when establishing boundaries and when establishing causal networks
Emphasizes enhancement in all forms of IA	Treats SEA as tool for proactive and strategic interaction with decision making rather than as a means of reporting largely negative environmental effects	Fully integrates community and traditional knowledge, and public concerns, preferences, values, and aspirations
Seeks mutually reinforcing gains on all fronts in preference to significant, especially permanent, losses, or trade-offs (e.g., natural capital substituted by human capital)	Shifts emphasis beyond simply effects to encompass environmental issues, concerns, and values in effort to make more central to decision making	Allocates sufficient time and resources for effective and meaningful participation by all interested and affected parties
Provides criteria and trade-off rules as the basis for separating the sustainable from the unsustainable; for assessing relative sustainability contributions; and for assessing sustainability decision quality	Tiers various SEA types and establishes and strengthens multidirectional links; ensures outputs directly linked to downstream decision inputs and EIA activities	Provides public consultation from the outset and throughout the process; provides additional resources to marginalized groups and indigenous peoples to participate, and to conduct their own analyses and consultation
Explicitly favors caution and adaptation and requires independent monitoring and reporting	Treats SEA as an inherently uncertain, continuous process and a catalyst for organizational learning	Explicitly addresses procedural and substantive equity and fairness issues
Assesses SA institutional changes and reforms against good sustainability governance framework, adapted to organizational and government context	Provides continuous information to decision makers	Makes a concerted effort to facilitate community and public learning, capacity building, collaboration, coalition building, and empowerment
Favors bottom-up participation and decentralization; broadly engages public and communities	Clearly defines decision-making roles and responsibilities; seeks planning ownership of SEA	Defines the environment and effects broadly
Ensures open to public scrutiny, public participation, and public legal action to compel compliance	Uses follow-up to determine the value added from SEA to and to inform theory and guidance	Fully integrates substantive, sustainability goals, thresholds, and trade-off rules
	Places more emphasis on scoping, collaboration, negotiation, persuasion, and role of SEA as social/rational learning tool; less emphasis on prediction and evaluation	Avoids and minimizes negative effects, enhances and creates positive effects, creates and explores best, environmentally practical alternatives, and seeks to realize community aspirations
	Makes full provision for public access and public participation; fosters collaborative/democratic approach	Addresses uncertainty concerns through avoidance, management at source, the precautionary principle, the systematic identification and management of uncertainties, a learning adaptive
	Seeks to overcome institutional and bureaucratic barriers—includes reforming	

(*continued*)

Table 3.2 (*Continued*)

Influential SA Practices	Influential SEA Practices	Influential EIA Practices
Institutes sustainability assessment capacity building, including provision for sustainability advisors Assesses sustainability decision-making effectiveness and identifies jurisdictional gaps	and institutionalizing environmental governance structures processes Enhances institutional capacity to undertake and implement SEA and democratic effectiveness Monitors environmental and nonenvironmental changes, goals achievement, and implementation performance Utilizes professional and institutional means to enhance SEA capacity to influence decision makers Provides data on SEA lessons, successes, obstacles, pitfalls, and benefits, with particular reference to effective implementation (i.e., more SEA self-reflection)	management approach, and the systematic integration and application of uncertainty, complexity, and risk avoidance and management methods

Influential EcIA Practices	Influential SIA Practices	Influential HIA Practices
Integrates biodiversity and ecological IA into SEA and EIA requirements and institutional arrangements Links to international biodiversity and protected area and species treaties, conventions, and agreements Links to and places within the context of international, national, and local ecological and conservation policies and good practices Places within context of ecological management plans Liaises and cooperates with other jurisdictions, experts, and nongovernment organizations; works toward common standards and guidance and share lessons, insights, and practices Facilitates stakeholder involvement in decision making and comanagement Focuses on ecosystem relationships and processes, enhances benefit sharing, uses adaptive management practices (at the appropriate scale and decentralized where practical), cooperatively and collaboratively involves interested and affected parties, and adopts a long term/regional systems perspective Seeks to further ecological sustainability, maintain and enhance natural capital, and ensure no adverse effect on sustainable use of biological resources Seeks to avoid irreversible losses, enhance, restore, and add to biodiversity at the ecosystem, species, and genotype levels Ensures the sustainable use of biodiversity resources, and ensures fair and equitable sharing of biodiversity benefits	Ensures IA requirements include positive and negative, direct and indirect social environment and effects Advocates for full weighting of social and psychological impacts Applies SIA early and fully in planning and decision-making process Encompasses social, economic, cultural heritage (including spirituality), political, and health effects Seeks a holistic, social–cultural–historical understanding of society, of social and economic processes and systems, and of potentially affected local and regional populations and communities (e.g., community profiles) from outset of process Recognizes that SIA is inherently political, and seeks to decentralize decision-making power Seeks to contribute to social learning, capacity building, socioeconomic empowerment of the least powerful, and the realization of social potential Seeks to identify and counter institutional constraints to SIA Seeks to bring local knowledge into decision-making process and to demonstrate potential role of SIA in enhancing participation, in facilitating mutual learning, and in alleviating tensions Focuses on key elements of human environment and provides quality information for use in decision making Recognizes that SIA is often hampered by institutional, financial, and professional constraints; makes proactive effort to prevent and offset	Clarifies legal standing of HIA as part of SEA/EIA and, where appropriate, independent from SEA/EIA Seeks to obtain political and government support for HIA Clearly and simply demonstrates links from HIA to policy issues and problems and HIA utility Seeks to institutionalize HIA Clarifies criteria for initiating, conducting, and completing HIA Sponsors HIA demonstration projects Institutes sustained dialogue among researchers, practitioners, affected populations, and policy makers Creates single accessible source of information about HIAs; ensures ongoing resources Engages decision makers and other stakeholders Develops and applies frameworks for assessing costs and benefits of HIA Seeks to mainstream HIA so triggered as part of routine decision making Devotes particular attention to avoidable, involuntary, adverse, irreversible, and catastrophic effects Systematically addresses health hazards and risks, health promoters and opportunities, potential health impacts, their pathways and potential outcomes Explicitly acknowledges limitations of analysis and methodology, and associated implications Involves and engages health experts, and ensures coordination between IA and health practitioners; clarifies roles

Table 3.2 (*Continued*)

Influential EcIA Practices	Influential SIA Practices	Influential HIA Practices
Distinguishes among biodiversity values, social/community values, and economic values associated with ecological features Makes explicit reference to relevant aspects of ecological structure and function upon which features depend Focuses analysis, where possible, using indicator species or valued ecosystem components Identifies and evaluates ecological resources likely to be affected, biological changes likely to be affected, valued ecological resources and features, and significant ecological features Employs best practical options (mitigation) for maintaining biological diversity (including generous offsets) Assesses impacts at bioregional, ecosystem, habitat, community, species, population, and below species levels Applies ecological standards, guidelines, and objectives, where practical, to support significance decisions; protects sites and features designated for nature conservation, and rare, endangered, and vulnerable habitats and species Institutes biodiversity monitoring program; ensures commitment to and adequate resources for enforcement and implementation Cooperates with biodiversity partnerships and information networks	Identifies key public social and cultural issues, respects fundamental human rights, promotes health and safety; avoid and minimize impacts on physical and cultural heritage resources Devotes particular attention to designated sites, and to concerns of indigenous, ethnic, and cultural groups Acknowledges the legitimacy of public risk perception; seeks intergenerational, intragenerational, and gender equity; seeks to recognize and preserve diversity and fully integrate local and traditional knowledge, concerns, perspectives, and experiences Seeks to end the marginalization of indigenous peoples regarding development in traditional lands, and provide for control of SIA by indigenous peoples Systematically addresses the distribution of impacts among different groups in society, ensures that environmental justice and gender issues are fully described and analyzed, and makes impacts on vulnerable groups a priority Seeks to help affected populations and communities understand, participate in, and cope with potential impacts, to use SIA and proposed actions as catalysts for achieving positive community visions and goals (social sustainability), and to attain broad public acceptance and support Emphasizes critical importance of public participation and central role of SIA practitioners (subject to ethical boundaries) in consulting and negotiating with stakeholders Seeks to develop and apply a simple and workable SIA follow-up model; ensures government agencies have institutional and financial capability to implement Adjusts approach to suit regulated and deregulated contexts	Integrates public and decision-maker concerns and perspectives about potential health effects Seeks to reduce inequities that result from avoidable differences in health determinants and/or outcomes Seeks to reduce the burden on health sector services, to strengthen health services, and to safeguard health and well being Provides monitoring and evaluation guidance and ensures health concerns are fully integrated into follow-up Involves communities in a participatory manner; fosters stakeholder/community buy-in Seeks to understand how decision makers may react to HIA and explores means to affect Seeks to demonstrate role of HIA in making decision makers more accountable to constituencies Links to broader efforts to promote public health across multiple sectors Addresses crosscutting health issues and sustainability repercussions Undertakes process and performance evaluations of completed HIAs Contributes to HIA capacity building Practitioners share experiences, lessons, insights, promising practices, and recommendations for improvement

Sources: Ayre and Calloway (2005), Ali et al. (2008), Atkinson and Cooke (2005), Becker et al. (2005), Benson (2003), Bhatia (2007), Bhatia et al. (2010), Bina (2007), Binder et al. (2010), Bond (2004), Bond and Morrison-Saunders (2011), Bonifazi et al. (2011), Buchan (2003), Burdge (2003a,b), CEAA (1996a, b), Chaker et al. (2006), Cherp et al. (2007), Clark et al. (2011), Cole (2004), Cole and Fielding (2007), Connor and Dovers (2004), Dalal-Clayton and Sadler (2004), Dannenberg et al. (2006), Doelle and Sinclair (2006), Dora (2004), Dovers (2005), Edwards (2005), Égré and Senécal (2003), Edelstein (2003), Edwards (2005), Elliott and Francis (2005), Erlanger et al. (2008), Fischer (2005), Fischer and Gazzola (2006), Fischer et al. (2010), George and Kirkpatrick (2008), Gibson (2006a, 2011), Hanna (2005), Hacking and Guthrie (2008), Harris and Spickett (2011), IAIA (1999, 2002a,b, 2003, 2005, 2006a,b, undated b), ICPGSIA (2003), IEEM (2006), Jiliberto (2011), João and Mcclauchlan (2011); João et al. (2011); Jones and Slinn (2008); Kemm (2005); Kiewiet and Vos (2007); Kirchhoff et al. (2009); Kirkpatrick and George (2006), Knaus et al. (2006), Kreigar et al. (2003), Lane et al. (2003), Larsen et al. (2012), Lawrence (2009), Lobos and Partidário (2010), Manou and Papathanasiou (2009), Momtaz (2003), Morgan (2011), Morrison-Saunders and Fischer (2010), Morrison-Saunders and Hodgson (2009), Ng and Hui (2007), Noble (2000b, 2004b, 2008, 2009b), Noble and Bronson (2006), Nobel and Storey (2005), OECD (2006), O'Faircheallaigh (2009), Ortolano (2008), Partidário (2007), Partidário and Arts (2005), Partidário and Wilson (2011), Petäjäjärvi (2005), Peterlin et al. (2008), Petticrew et al. (2007), Pisani and Sandham (2006), Pope et al. (2004), Pope (2006), Pope and Dalal-Clayton (2011), Pope and Grace (2006), Pope and Klass (2010), Pritchard (2005), Quigley and Taylor (2003), Scanlon and Davis (2011), Scott (2011), Sharma (2010), Shepherd (2008), Sinclair et al. (2008), Stoeglehner et al. (2009), Slootweg and Kolhoff (2003), Swangjang et al. (2004), Tang (2010), Taylor et al. (2003, 2004), Thérivel (2010), Treweek et al. (2005), Tugwell and Johnson (2011), Vanclay (2003, 2006, 2010), Wale and Yalew (2010).

and influencing decision making regarding proposed or potential projects at a point when decision making is open to the consideration of reasonable alternatives and to the integration of a broad range of environmental effects. Influential EIA practice seeks to move beyond IA as either a post hoc rationalization or as a bureaucratic barrier to be overcome. Influential EIA practice entails clearly defined roles and responsibilities; the integration of IA into decision making from initial problem/opportunity definition right through to postapproval follow-up; the systematic analysis and interpretation of options and individual and cumulative effects; explicit and fully substantiated assumptions, methods, interpretations, conclusions, and recommendations; the use of proactive measures and resources to facilitate public understanding, involvement, and influence prior to every decision; and an adaptive approach that effectively identifies and manages risks and uncertainties. Influential EIA practice provides information, analyses, and interpretations in a form that is readily understandable; is appropriate to the context and audience; and is directly linked to potential decisions (including how they might be implemented). It is focused on key stakeholder issues; efficiently utilizes available resources; effectively draws upon both technical/scientific and community/indigenous knowledge; appreciates and integrates the perspectives, interests, and values of each party; treats IA as a mechanism for fostering collaboration and organizational/social learning and capacity building; and explicitly and systematically addresses procedural and substantive equity and fairness issues.

Ecological Impact Assessment (EcIA) Influential EcIA practice places particular emphasis on links to international, national, and local ecological and biodiversity agreements, policies, requirements, and initiatives; on cooperation, joint planning and comanagement with other jurisdictions and environmental NGOs; on the integration and application of ecological standards, guidelines, and objectives; and on the systematic adaptation and application of ecological knowledge and perspectives at multiple ecological and decision-making levels.

Social Impact Assessment (SIA) Influential SIA practice recognizes the inherently political nature of IA and decision making, and the critical importance of public participation. It ensures that contextual variations are fully reflected in decisions and in the outcomes from decisions. It proactively seeks to decentralize decision making; fully integrates social, cultural, heritage, and psychological effects and concerns; systematically addresses interconnections among ecological, social, and health effects; facilitates social learning, capacity building and empowerment; overcomes institutional constraints to SIA; respect human rights; fully considers the distribution of effects among population groups; ameliorates and overcomes procedural and substantive inequities–-especially for the least advantaged; incorporates community and indigenous knowledge, perspectives, and experiences; and attains broad public acceptance and support, consistent with the realization of social potential and aspirations.

Health Impact Assessment (HIA) Influential HIA practices focus on obtaining political and government support for the institutionalizing of HIA; on directly linking HIA processes and outcomes to policy issues and problems; on demonstrating (e.g., through demonstration projects and effectiveness analyses) the benefits to all stakeholders of HIA; on facilitating dialogue among researchers, practitioners, affected populations, and decision makers; and on ensuring a sound and readily available (to all parties) HIA knowledge base. HIA practice, if it is to be influential, must explicitly and systematically address and manage the health concerns and priorities of all parties; clearly acknowledge uncertainties and limits; promote health rather than just seek to minimize adverse health effects; reduce inequities; foster links to health practitioners; focus particular attention on avoidable, involuntary, adverse, irreversible, and catastrophic health risks (especially to the most vulnerable); demonstrate benefits to the delivery of health services; facilitate stakeholder and community "buy-in" and support; and contribute to HIA capacity building.

3.6 CONTEMPORARY CHALLENGE—IA INFLUENCE—GOOD PRACTICE GUIDANCE

Enhancing the influence of IA in decision making is a complex task involving a variety of strategies and tactics. Tables 3.3 and 3.4, respectively, use criteria to structure the presentation of potential good practices for making IA more influential at the regulatory level and applied levels.

These criteria and practices represent, at best, a list of possible measures. Careful consideration should be given to whether they are appropriate to the decision-making context and, if so, what adaptations might be needed. Individual measures need to be knit together into a coherent strategy. Such a strategy should be the product of an open and collaborative process involving all interested and affected parties. It also should draw upon experiences elsewhere (again with appropriate contextual adaptations) and IA literature. Adjustments during the course of implementation will always be necessary. An open and independent audit of the effectiveness of the measures, both individually and collectively, is essential.

3.7 SUMMING UP

In this chapter we describe an influential IA process, a process directed toward making IA practice more integrated with and influential over decision making. Four stories describe applied, IA influence-related experiences in which (1) the major parties decide to circumvent the IA process on the grounds that the proposal is too "important"; (2) SEA is used as an instrument for enhancing public policy-making

Table 3.3 Examples of Regulatory Level Good Practices: Making IA More Influential

Criteria	Practices
Enhancing the understanding of decision making	Sponsor applied research on obstacles and pitfalls and on what makes different planning systems effective
	Include provisions for undertaking of an institutional analysis (e.g., objectives, legal and regulatory framework, informal rules, decision-making processes, implementation, resources, interactions)
	Seek to understand what makes IA effective in different planning systems
	Treat IA as open learning process, and decision making as process of learning and negotiations among multiple actors
	Explore strategies for overcoming institutional resistance to instilling environmental values
Constraining and substantiating decision making	Require reasons for all IA decisions
	Require decision makers to follow IA recommendations or provide reasons (consistent with purpose of legislation) for not doing so
	Seek senior management commitment
	Ensure authorities have competence and duties to take environmental matters into account
	Require agencies to avoid or minimize proposal's negative environmental effects
	Require that final decisions take into account public views and constraints
Ensuring decision making is easier and better informed	Clarify IA aims and accomplishments
	Require summary documents
	Emphasize, in requirements and guidelines, readability, reduced length, and highlighting of significant impacts
	Clarify objectives
	Insist on transparent planning and decision making
	Tailor communications to decision-making needs and preferences
Reducing the barriers to IA decision-making effectiveness	Reform institutions to integrate sustainability and environmental values into mandate
	Contribute sufficient resources to implement IA
	Seek to decentralize decision making
	Seek to identify and then enact measures to reduce self-sufficiency and exclusion of strong institutions and interest groups that tend to dominate bureaucracies; may require legal provisions and networking
Making decision making more explicit, consistent, and up-to-date	Explicitly identify agency roles, responsibilities, and accountability, keyed to decision points
	Incorporate SEA and EIA performance (measures of success—quality control) tracking measures by agency; including national repository, available online
	Sponsor development of quality and effectiveness review protocols
	Establish working group to investigate need for further improvements
	Clarify and make explicit such matters as contacts, languages, timing, notification, public consultation, interpretation of terms, document contents, and follow-up
Making decision making more transparent, open, inclusive, democratic, and empowering	Make all completed assessments public; central registry
	Define public broadly, define effective notice and acceptable processes for engaging public at key decisions
	Rectify inadequate timelines
	Require demonstration of public role in decisions
	Provide opportunities for appeal of process or decision outputs
	Promote in legislation and guidelines, multistakeholder and public participation, cooperation, negotiations, and dispute resolution
	Establish participant funding and IA capacity building programs
	Require documentation of agency consultation procedures
	Devote more attention to subsidiarity
	Strengthen links among planning, decision making, and participation
	Enhance democratization; reframe decision making to shift balance of power toward marginalized groups
Making decision making more environmentally substantive	Give IA statutory, substantive purpose, principles, and objectives (by government level); require decisions to be consistent with
	Seek political commitment to objectives of legislation
	Devote greater attention to advancing systems and practices for ensuring substantive outcomes
	Establish clearing houses/repositories for environmental information and data
	Strengthen science–policy links (e.g., through knowledge brokering)
	Promote and incorporate environmental values; seek to integrate into institutions

(*continued*)

Table 3.3 (*Continued*)

Criteria	Practices
	Increase weight given to environmental resources and capacities in IA systems
	Institute higher approval test—enhancements and net sustainability gains
Demonstrating the benefits of IA	Require and encourage top level political and bureaucratic buy-in
	Require IA performance evaluation
	Sponsor applied research—IA effectiveness and added value
	Emphasize effectiveness in monitoring requirements
	Solicit and facilitate public sector "ownership" of IA outcomes
Linking IA and to related decision making	Formalize tiering of policies, plans, programs, and projects
	Link SEA to downstream decision inputs and decision activities
	Promote interagency cooperation and coordination
	Explore opportunities for greater unity and comparability among substantive and procedural IA and environmental requirements
Linking IA to and integrating IA with policy/plan/program and project decision making	Integrate with policies, plans, programs, and projects, wherever practical
	Focus on planning and decision-making links
	Investigate barriers to ecological, social, and health integration, and how might be addressed
Enhancing the organizational and institutional capacity to undertake IA	Provide for IA and IA-type training and capacity building (e.g., technical training, awareness-raising workshops, support for institutionalizing of evaluation systems, networking, guidelines)
	Enhance regulatory, financial, and personal capacities of IA system, authorities, and other participants to undertake and effectively participate in IA and ameliorate technological and logistical constraints
	Institute management systems to apply requirements and support implementation (e.g., compliance outreach, training and organizational support, education of staff, contractors and decision makers)
	Sponsor institutional analysis; ameliorate weaknesses that inhibit effective IA
Enhancing the fit between IA and the decision-making context	Emphasize need to design to suit problem and institutional context
	Consider planning culture differences and implications
	Sponsor adaptation of quality and effectiveness review protocols to match decision-making context
	Adapt IA policies and requirements in conjunction with changing institutional environment and societal reform
Enhancing the professional status of IA practitioners	Consider mandatory registration of IA professionals (by IA type), IA training, codes of conduct, and methodological guidelines

Sources: Benson (2003), Bond (2004), Bond and Morrison-Saunders (2011), Booth and Skelton (2011a,b), Campbell (2003), Cashmore (2004), Cashmore et al. (2004), Bonifazi et al. (2011), Bredariol and Marini (2003), Briffet et al. (2003), Burdge (2008), Buuren and Nooteboom (2009), Chaker et al. (2006), Cherp and Antypas (2003), Craik (2008), Dimento and Ingram (2005), Doberstein (2003), Doelle and Sinclair (2006), Eccleston (2008), EC (2008b, 2009d, 2010, 2011b), Elling (2007, 2011), European Court of Auditors (2010), Evaluation Partnership (2007), Fischer (2005, 2006); Fischer et al. (2009); Fuggle (2005a,b); Gazzola (2008); Hanna (2005); Hanusch and Fischer (2011); Hansen and Wolff (2011); Hegmann and Yarranton (2011); Heinma and Põder (2010), Hildén et al. (2004), Hinte et al. (2007), IAIA (undated a), ICCL (2001), Jackson and Dixon (2006), Jha-Thakur et al. (2009), Jiricka and Pröbstl (2008), Jiliberto (2011), Jiricki and Pröbstl (2009), João (2007), Jones and Slinn (2008), Karjalainen and Järvikoski (2010), Kessler and Abaza (2006), Keys et al. (2011), Kørnøv and Dalkmann (2011), Kolhoff et al. (2009), Kolkman et al. (2007), Kørnøv and Thissen (2000); Larsen et al. (2012); Lobos and Partidário (2010); Lyhne (2009); McCluskey and João (2011); Noble (2004a,c, 2009a,b); Noble and Bronson (2006), Noble and Storey (2005), Nykvist and Nilsson (2009), OECD (2006), O'Faircheallaigh (2009, 2010), Page (2006), Partidário and Coutinho (2011), Persson and Nilsson (2007), Pisani and Sandham (2006), Pischke and Cashmore (2006), Pölönen (2006), Pullin and Knight (2003), Retief (2007b), Retief et al. (2008), Ross et al. (2006), Runhaar and Driessen (2007), Runhaar et al. (2010), Sánchez and Gallardo (2005), Scott (2011), Sheate (2011), Sheate and Partidário (2010), Smythe and Isber (2003), Söderman and Kallio (2009), Soneryd and Weldon (2003), Stern et al. (2009), Stern and Predmore (2011), Stoeglehner et al. (2009), Thérivel (2010); Tinker et al. (2005), Tzoumis (2007), Vicente and Partidário (2006), Weaver et al. (2008), Weston (2011), Wirutskulshai et al. (2011), Zhu et al. (2010).

influence; (3) various approaches are explored in one jurisdiction (the Netherlands) for making IA more relevant and influential; and (4) the key environmental issue (i.e., whether the proposal should proceed) was not addressed by the EIA, and the EIA process and documents had a negligible influence on decision making.

Three negative perspectives represent the problem. The first perspective concerns the view that IA is a simple process readily mastered with only a modicum of methodological knowledge and experience. The second perspective views IA as more trouble than it is worth. The third perspective argues that proposed actions directed towards environmental ends and environmentally conscious policies, plans, programs, and projects already achieve IA-related ends without the costs and biases associated with IA-related means. Together these perspectives result in a tendency to circumvent or avoid IA processes and/or they undermine the effectiveness of IA processes. The direction entails determining the legitimacy of these perspectives, offsetting potentially valid aspects of these perspectives, and defining more relevant IA requirements and processes.

Table 3.4 Examples of Applied Level Good Practices—Making IA More Influential

Criteria	Practices
Enhancing the understanding of decision making	Seek to enhance understanding of "real" decision-making (e.g., customs, tools, formal and informal rules, yardsticks, norms, priorities, competencies, cultures, sources, and culture of resistance to and disownment of change, interests, incentives, frames of reference, how power directly and indirectly exercised, cognitive and resource limits, distribution of decision making among actors)
	Seek to enhance understanding of beliefs, roles, values, biases, preferences, norms, ambiguity, experiences, convictions, interests, and needs of decision makers and of other stakeholders
	Promote discourse analysis and discourse reflection by stakeholders
	Identify all parties, interests, and views associated with proposed action and alternatives; analyze conflicts
	Identify current and potential roles of IA in decision making
	Assess varying perceptions of IA practitioners and decision makers
Constraining and substantiating decision making	Ensure reasons consistent with requirements, purposes, principles, and objectives
	Substantiate choice and application of all assumptions and methods
	Make IA preparation roles and responsibilities explicit
	Make implementation roles and responsibilities explicit
	Ensure that public views not constrained or narrowed
	Provide and apply clear decision-making criteria; link to legal requirements, objectives, and ethical principles
Ensuring decision making is easier and better informed	Focus on main messages and results in nontechnical form adjusted to readers
	Seek to enhance communications to decision makers (e.g., bridging problems and solutions) and among stakeholders
	Provide roadmaps and meet needs of readers
	Initiate early consultation with decision makers
	Provide evidence-based framework for decision steps
	Provide sufficient, reliable, and usable information for planning and decision making
	Identify and remedy communications deficits
	Focus on critical factors that could make a decision-making difference
Reducing the barriers to IA decision-making effectiveness	Concentrate on performance effectiveness
	Foster ownership of outcomes
	Seek to facilitate dialogue, adjust perceptions, and identify shared interests and meanings
	Seek to understand basis for disputes, help parties reframe and work toward settlement; may require role for dispute resolution specialists
	Seek to positively influence decision makers' capacity to accept by changing mind sets and motivations at senior levels
	Involve decision makers as active participants from process outset
	Demonstrate added value of IA to decision making
Making decision making more explicit, consistent, and up-to-date	Use decision tools and frameworks to facilitate more systematic and consistent decision making
	Apply criteria for assessing IA expert judgments and decision consistency
	Clearly define roles and responsibilities of assessors and planners
	Provide more best practice examples and lessons and knowledge sharing forums
	IA practitioners, organizations, and professional bodies should raise bar and demand better quality assurance
	Ensure consistence with good practice standards and quality and effectiveness review results
Making decision making more transparent, open, inclusive, democratic, and empowering	Seek to influence decision making through participation and involvement in structured decision making
	Seek to integrate environmental inputs into critical decision windows
	Assess direct and indirect democratic effectiveness
	Facilitate community empowerment; facilitate bottom-up participation and influence
	Institute early in process and undertake throughout action life cycle
	Treat IA as a systematic negotiating tool to identify the best option that meets shared stakeholder objectives
	Facilitate two-way communication and collaboration among stakeholders from outset of process
	Facilitate coordination between government and nongovernment
	Foster bottom-up participation and influence; consider and assess democratic effectiveness
	Respect treaty and aboriginal rights
	Eliminate bias against community and aboriginal views and knowledge
	Extend public involvement into decision making and into postapproval decisions
	Broaden temporal and spatial boundaries

(*continued*)

Table 3.4 (*Continued*)

Criteria	Practices
Making decision making more environmentally substantive	Focus on achievement of environmental and sustainability vision and goals (e.g., positive sustainability contribution); follow-up whether goals achieved
	Focus on integration of environmental values
	Institute new forms of sustainability plans and appraisals
	Identify and apply explicit sustainability, environmental, and substantive ethical principles and standards
	Undertake environmental advocacy when highly normative and politically constrained issue
	Shift IA orientation to promoting substantive environmental concerns, especially sustainability
Demonstrating the benefits of IA	Undertake applied research—cases that demonstrate added value
	Seek stakeholder buy-in
	Link IA outcomes to public interest
	Use follow-up to demonstrate value added by IA for all stakeholders
	Emphasize effectiveness in monitoring
	Demonstrate how IA consistent with and supportive of interests, values, and preferences of decision makers and senior administrators
Extending decision making past approvals	Employ strong enforcement mechanisms
	Ensure sufficient resources to impact monitoring so can evaluate impacts and mitigation effectiveness
	Independently review and audit decision making
	Employ checklists and audit protocols to ensure mitigation measures successfully implemented
	Link to and integrate with environmental management systems
	Assess effectiveness in terms of contribution to decisions, procedural quality of process, and quality of stakeholder participation
Linking IA to related decision making	Link to national and institutional environmental and sustainability policies and strategies
	Link to state-of-the-environment reporting
Linking and integrating IA with policy/plan/program and project decision making	Integrate institutional and political factors
	Comply with legal requirements
	Network between assessors and planners
Enhancing the organizational and institutional capacity to undertake IA	Foster organizational learning
	Assess legal, policy, and development control implications
	Treat IA as catalyst for organizational learning
	Make institutional analysis part of IA process
	Learn from effectiveness/performance assessments
	Seek to instill IA knowledge and skills in sectors responsible for development planning
	Seek to foster capacities of key stakeholders
Enhancing the fit between IA and the decision-making context	Systematically adapt to decision-making context
	Seek opportunities to positively influence context
	Adapt quality and effectiveness review protocols to match context
	Consider contextual uncertainties and decision-making implications
Enhancing the professional status of IA practitioners	Participate in environmental advocacy, especially when highly normative and politically constrained issue
	Practitioners should actively seek to enhance IA quality and effectiveness
	Foster professional networks and adherence to good practice standards

Sources: Benson (2003), Bond (2004), Bond and Morrison-Saunders (2011), Booth and Skelton (2011a,b), Cashmore (2004), Cashmore et al. (2004), Bonifazi et al. (2011), Bredariol and Marini (2003), Briffet et al. (2003), Burdge (2008), Buuren and Nooteboom (2009), Campbell (2003), Chaker et al. (2006), Cherp and Antypas (2003), Craik (2008), Dimento and Ingram (2005), Doberstein (2003), Doelle and Sinclair (2006), Eccleston (2008), EC (2008b, 2009d, 2010, 2011a,sb), Elling (2007, 2011), European Court of Auditors (2010), Evaluation Partnership (2007), Fischer (2005, 2006); Fischer et al. (2009); Fuggle (2005a); Gazzola (2008); Hanna (2005); Hanusch and Fischer (2011); Hansen and Wolff (2011); Hegmann and Yarranton (2011); Heinma and Põder (2010), Hildén et al. (2004), Hinte et al. (2007), IAIA (undated b), Jackson and Dixon (2006), Jha-Thakur et al. (2009), Jiricka and Pröbstl (2008), Jiliberto (2011), Jiricki and Pröbstl (2009), João (2007), Jones and Slinn (2008), Karjalainen and Järvikoski (2010), Kessler and Abaza (2006), Keys et al. (2011), Kørnøv and Dalkmann (2011), Kolhoff et al., (2009), Kolkman et al. (2007), Kørnøv and Thissen (2000); Larsen et al. (2012); Lobos and Partidário (2010); Lyhne (2009); McCluskey and João (2011); Noble (2004a,c, 2009b); Noble and Bronson (2006), Noble and Storey (2005), Nykvist and Nilsson (2009), OECD (2006), O'Faircheallaigh (2009, 2010), Page (2006), Partidário and Coutinho (2011), Persson and Nilsson (2007), Pisani and Sandham (2006), Pischke and Cashmore (2006), Pölönen (2006), Pullin and Knight (2003), Retief (2007b), Retief et al. (2008), Ross et al. (2006), Runhaar and Driessen (2007), Runhaar et al. (2010), Sánchez and Gallardo (2005), Scott (2011), Sheate (2011), Sheate and Partidário (2010), Smythe and Isber (2003), Söderman and Kallio (2009), Soneryd and Weldon (2003), Stern et al. (2009), Stern and Predmore (2011), Stoeglehner et al. (2009), Thérivel (2010); Tinker et al. (2005), Tzoumis (2007), Vicente and Partidário (2006), Weaver et al. (2008), Weston (2011), Wirutskulshai et al. (2011), Zhu et al. (2010).

Perspective 1 (What Could Be Simpler?) envisions the IA process as a simple, rational planning procedure. All that is required to effectively manage the IA process, it maintains, is a cursory knowledge of IA methodology, familiarity with IA requirements and guidelines, and some experience with comparable proposals and processes. The IA knowledge base is viewed as limited and largely static. Little knowledge from related fields is considered relevant.

Perspective 2 (It Can't, Won't, or Shouldn't Be Done) asserts that IA cannot, will not, or should not be institutionalized and applied as a decision-making aid. A variety of overlapping and mutually reinforcing reasons have been offered up to support this conclusion. IA, it is argued, involves inherently artificial boundaries; is largely atheoretical; lacks focus or tends to focus on the wrong things; seeks (unsuccessfully) to predict and manage long-term change; is confounded by irreconcilable value changes; is inherently biased and subjective; tends to be excluded from or peripheral to decision making; inequitably allocates resources; entails requirements and processes that are neither necessary nor effective; and makes no or a minimal, substantive environmental contribution.

Perspective 3 (We Already Do That) starts from the premise that the major purpose of IA (i.e., more environmentally sound decision making) is or can be achieved through environmentally driven and shaped policies, plans, programs, and projects, without the imposition of "action-forcing" IA requirements. Proponents of this perspective point to the many public policies, plans, and programs designed and implemented to achieve environmental aspirations—initiatives launched and undertaken without the necessity of grafting on IA requirements. They maintain that there already is a long tradition of infusing environmental perspectives and knowledge into public and private decision making. They also argue that IA is wasteful, redundant, and unnecessary; distorts planning and decision making; has a negligible planning role; and represents little more than a bureaucratic hurdle.

Although the three perspectives represent a partially valid criticism of some IA practice, the arguments are overstated, many positive examples do not display the characteristics cited, and there is considerable scope for improvement to the extent that IA practice falls "short of the mark." Contrary to Perspective 1, although basic IA processes are simple, there are a huge array of process design choices available, choices that should be drawn upon for complex decision-making situations, to match process to context, and to adapt to changing conditions and needs. The IA knowledge base is extensive, rapidly expanding, and complex. A thorough understanding of the IA knowledge base, and the knowledge base of related fields, is essential to good IA practice. Considerable experience and care is needed to adapt knowledge to practice, to transfer experiences from comparable proposals, and to adequately interpret IA requirements, guidelines, and advice.

There also is considerable potential for ameliorating the shortcomings cited by adherents to Perspective 2. Boundaries can be effectively and systematically determined and substantiated. IA theory building and testing is both possible and highly desirable. IA practice can be focused in a supportable manner. Techniques are available for effectively predicting and managing long-term environmental changes. Value differences can be both embraced and ameliorated. Bias can be minimized. Subjective interpretations can be clearly and consistently applied and supported. IA requirements and processes can be reformed to encompass all relevant decision making. Resource inequities can be offset. IA requirements and processes are both necessary and potentially effective. IA can and has made positive contributions to the achievement of environmental objectives. Considerable scope for improvement remains to further ameliorate the negative tendencies of some IA practice, to build upon positive examples, and to make more effective use of available knowledge and experience.

Perspective 3 overstates the extent to which the planning of policies, plans, programs, and projects, without the integration of IA requirements, fully and adequately addresses environmental concerns. It also overstates the deficiencies and limitations of IA as a field of theory and practice. Advocates of Perspective 3 tend to incorrectly assume that (1) environmental proposals have negligible adverse environmental impacts (substantial unintended adverse environmental effects often occur); (2) environmental considerations and aspirations are enough (often intentions fall well short of accomplishments); (3) action-forcing requirements are unnecessary (IA requirements ensure minimal performance standards are met and IA guidelines can facilitate more consistent good practice); and (4) impact assessment is inherently biased and has nothing to contribute methodologically (IA biases have been largely transcended in recent years and the field has much to offer regarding such matters as the prediction and interpretation of environmental effects, the generation and evaluation of alternatives, impact management, and stakeholder involvement).

Several concepts, integrative frameworks, and knowledge base and research priorities, pertinent to designing and managing influential IA regulatory and applied processes and systems, are described to establish a foundation for good practice approaches to facilitating decision-making influence.

There are positive and negative examples of influence-related IA requirements and initiatives in each of the four jurisdictions. Influence at the IA regulatory level includes the IA regulatory system, the IA administrative system, and links between IA types and decision making. The state of IA practice has advanced to the point that good practices can be identified in each of these areas. Contextual adjustments and a collaborative approach are, however, necessary.

An example influential IA process is depicted. The process, in common with most IA process characterizations, includes such activities as screening, scoping, alternatives generation and evaluation, baseline and effects analysis and interpretation, documentation, decision making, monitoring, and follow-up. Unlike typical IA process descriptions, the

influential IA process also links and integrates SEA and EIA types and decision-making levels, systematically draws upon and contributes to the IA and related fields knowledge base, and fully integrates all stakeholder perspectives and interests from the outset, and throughout the process. In addition, the process is guided and structured by explicit sustainability and other environmental values and objectives, stakeholder interactions are guided by procedural objectives, and direct and explicit links are made to related decisions and to IA institutional arrangements. Also, a systems perspective is maintained throughout; a proactive effort is made to inform, influence, and substantiate decision making; care is taken to ensure that the process suits the context; and community and traditional knowledge are fully and effectively integrated into the process. Given the likelihood of varying perceptions of influence among IA stakeholders, an influential IA process must necessarily steer a careful path if it is to effectively link and balance these varying perspectives. It is far easier to achieve such a balance when the major stakeholders respect one another; when they collaboratively work together for common goals; and when the process facilitates cooperation and communications.

Good practices for making IA more influential at the regulatory and applied levels, at the SEA and EIA levels, and for individual IA types (SA, SIA, EcIA, HIA) are presented. These possible measures need to be adapted to context and integrated into a coherent strategy. The strategy should emerge from an open and collaborative process involving all interested and affected parties. The strategy also should draw upon experience elsewhere and IA literature, be adjusted through implementation, and independently audited for effectiveness (as interpreted from multiple perspectives).