

Principles for EIA follow-up

International principles for best practice EIA follow-up

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This article presents principles for best practice environmental impact assessment (EIA) follow-up. These are intended to guide development and capacity building amongst EIA practitioners. The article starts by defining EIA follow-up and identifying the principal stakeholders involved. The core values that should underpin EIA follow-up are provided which explain why EIA follow-up should be done. The principles then consider: who should be involved in EIA follow-up; what best practice follow-up entails; and how follow-up can be undertaken. The article ends with some challenges for practitioners. It is hoped that the principles will help in the consolidation of EIA follow-up internationally and encourage further improvement in this field.

Keywords: EIA follow-up; principles; best practice

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IT IS A WELL-ESTABLISHED principle of best practice environmental impact assessment (EIA) that follow-up should be provided for (IAIA and IEA, 1999). Although it has long been advocated that follow-up should be an integral part of EIA practice (for instance, McCallum, 1985; Sadler, 1987a, 1987b), there is a lack of internationally accepted procedures, and a reliance on informal arrangements.

There has been a recent upsurge in interest in EIA follow-up internationally, based around a succession of workshops conducted at International Association for Impact Assessment (IAIA) conferences between 1999 and 2005. At the same time, new or revised EIA regulations requiring follow-up have been implemented in numerous jurisdictions around the world (Arts *et al.*, 2001; Morrison-Saunders *et al.*, 2003). A substantial body of literature on the topic has also emerged, which details the need for EIA follow-up, its role in the EIA process, techniques and approaches to it and, in some cases, evaluates the success of the practices.

It is not intended to duplicate this work here; recent reviews and critical discussion of this material can be found in Arts *et al.* (2001) and Morrison-Saunders and Arts (2004a). This article attempts to draw together key lessons learnt from experience internationally to codify principles of best practice follow-up. Following the example set by the development of international principles for social impact assessment (Vanclay, 2003), it seems appropriate to publish the principles in association with the special issue of *Impact Assessment and Project Appraisal* on EIA follow-up.

Recognition of the need for these principles arose at the IAIA '03 conference in Marrakech, when follow-up workshop participants suggested that it would be of overall benefit to other practitioners if a guiding set of principles could be established. A

preliminary attempt to establish EIA follow-up principles was subsequently presented at the IAIA '04 conference in Vancouver (Marshall *et al*, 2004) and constructive feedback was received from workshop participants. Meanwhile Arts and Morrison-Saunders (2004) identified some core values and principles for EIA follow-up practice. The principles that follow are based on this collective body of workshop discussions and published work.

EIA follow-up is a developing concept moulding itself to the evolving needs of EIA practitioners. EIA thrives in environments where continuous improvement and openness to, and development of, new approaches and innovations are promoted. The management controls promoted through EIA follow-up strengthen the overall structure and process for EIA, contributing to the disciplines involved and improving EIA practice and systems.

The principles presented in this article are designed primarily for reference, guidance and use by practitioners involved in EIA and post-decision project environmental management. They are not intended to be prescriptive. The objective is to promote EIA follow-up practice within institutional and corporate procedures for EIA. They will require review as changing circumstances and evolving best practice in EIA emerge.

Few internationally accepted guidelines promote EIA follow-up. There is a need for education in, and capacity building for, EIA follow-up across a range of international practice and individual practitioner

competencies. The principles outlined here are intended to provide a foundation or starting point for such capacity building.

It is hoped that practitioners will find the principles useful in guiding practice from design of EIA follow-up programmes during impact assessment studies through to monitoring, evaluation and management of environmental issues during ongoing implementation. Before presenting the principles, it is important to define clearly what is meant by EIA follow-up and to consider the scope of application, the stakeholders involved and the general need for follow-up.

Background to EIA follow-up

A number of recent publications have clearly defined and explained the follow-up concept and its role in the EIA process: salient points from this literature, which place the principles in context, follow.

Definition

EIA follow-up at the proposal level can be simply defined as (Morrison-Saunders and Arts, 2004b):

“The monitoring and evaluation of the impacts of a project or plan (that has been subject to EIA) for management of, and communication about, the environmental performance of that project or plan.”

Thus, EIA follow-up comprises four elements as summarised in Box 1. This definition contains similar elements to those identified in the operating principles for best practice EIA (IAIA and IEA, 1999), but with the addition of communication about performance. This element is vital if the goal of ‘learning from experience’ is to be achieved.

The term ‘EIA follow-up’ is used generically here and throughout this article. The concept of strategic environmental assessment (SEA) follow-up is currently emerging (Noble, 2002; Partidario and Fischer, 2004; Sadler, 2004; Partidario and Arts, 2005): this may lead to new ways of thinking about, and undertaking, follow-up in impact assessment. However, it is likely that the principles mooted here for EIA follow-up will be equally valid in SEA applications.

Scale of application

Three conceptually different approaches to EIA follow-up based on the level of analysis can be distinguished: monitoring and evaluation of EIA activities (micro-scale), evaluation of EIA systems (macro-scale), and evaluation of the utility of EIA (meta-scale) (Box 2).

Follow-up can be applied to strategic policies, plans and programmes as well as to operational projects. It is not necessarily restricted to singular

Box 1. EIA follow-up elements

1. Monitoring: the collection of data and comparison with standards, predictions or expectations. It includes baseline monitoring of the initial state of environmental indicators during the pre-decision stages, which provides the basis for prediction and evaluation in an environmental impact statement (EIS) and monitoring related to compliance with, and effects or impacts of, that decision in the post-decision stages.
2. Evaluation: the appraisal of the conformity with standards, predictions or expectations and the environmental performance of the activity. Sometimes this step is also called ‘auditing’ in the literature. It involves the periodical objective examination of monitoring observations by comparing them with pre-defined criteria.
3. Management: making decisions and taking appropriate action in response to issues arising from monitoring and evaluation activities. Ongoing management decisions may be made both by proponents (for instance, responding to unexpected impacts) and by EIA regulators (for instance, reviewing consent conditions and management requirements).
4. Communication: informing the stakeholders about the results of EIA follow-up (to provide feedback on project/plan implementation and on EIA processes). Both proponents and EIA regulators may engage in communication programmes. Some follow-up programmes extend beyond simple communication, specifically to include direct stakeholder participation in the monitoring, evaluation and management steps as well.

Source: Arts *et al* (2001); Morrison-Saunders and Arts (2004b)

Box 2. Conceptual levels of EIA follow-up application**Monitoring and evaluation of EIA activities (micro-scale):**

This is conducted on a project-by-project basis and relates directly to specific components of EIA (or SEA), such as impact prediction, impact monitoring, compliance auditing, and implementation of mitigation and environmental management actions. A key question is: Was the project and the impacted environment managed in an acceptable way?

Evaluation of EIA systems (macro-scale): This examines the effectiveness of an EIA (or SEA) system as a whole in a certain jurisdiction (for instance, the influence of the EIA process on decision-making, efficiency of EIA procedures and utility of EIA products). A key question is: How efficient and effective is a given EIA system overall?

Evaluation of the utility of EIA (meta-scale): This is closely related to the previous level, but going a step further to determine whether EIA (or SEA) is a worthwhile activity or concept overall. A key question is: Does EIA work?

Source: Morrison-Saunders and Arts (2004b)

Box 3. EIA follow-up stakeholders*Proponent*

Proponents are the private companies or governmental organisations that develop a project. Just as project management and mitigation of impacts is normally the responsibility of proponents in EIA, they are often expected to perform most follow-up activities. Follow-up driven by proponents may be considered as 'first party follow-up'. Voluntary, self-regulatory or industry-led initiatives, such as environmental management systems (EMS), may also incorporate some EIA follow-up functions (Marshall, 2004).

EIA regulator

EIA regulators (sometimes known as competent authorities) are a government agency (or a funding agency such as the World Bank) that is responsible for administering and implementing EIA processes. Follow-up carried out by regulators may be called 'second party follow-up'. It typically focuses on ensuring that proponents comply with EIA approval conditions as well as learning from experience to improve EIA processes in the future.

Community

The community refers to a body involving the public or other independent persons and may range from individuals directly affected by a proposal or interested persons including non-governmental organisations (NGOs), academics and the wider scientific community. Follow-up activities carried out or initiated by the community can be considered as 'third party follow-up'. Sometimes the community may have special knowledge of local areas and, being independent of both proponents and regulators, it may have interest in evaluating the performance of both of these stakeholders in the EIA process. Additionally, pressure arising from community scrutiny of development projects is often a driving force for proponents and regulators alike to implement EIA follow-up programmes. The extent of community participation may range from direct involvement in follow-up programmes to simply being kept informed of follow-up activities and outcomes.

Source: Morrison-Saunders et al (2003)

activities at the local level: it can also be applied to multiple projects/plans and be undertaken at a local or regional scale. Finally, it is important to bear in mind that EIA follow-up can take many forms, ranging from proponent-driven self-regulation to requirements imposed by EIA regulators or initiatives motivated by public pressure and community involvement (Morrison-Saunders *et al*, 2001). Clearly, then, there is no single 'right' way to conduct EIA follow-up! The principles developed in this article offer a consistent way of thinking about follow-up, but do not prescribe particular, ready-made actions.

Parties involved

Generally, three principal groups of stakeholders (parties) are involved in EIA follow-up as initiator, conductor or participant (Box 3). Previously, Morrison-Saunders *et al* (2003) demonstrated how these stakeholders can become involved in EIA follow-up with respect to the EIA regulations and institutional arrangements in place, techniques used in follow-up, resources and capacity available for follow-up and the type of activity being undertaken. Recently, Hunsberger *et al* (2005) reported on opportunities for community involvement in sustainability-centred EIA follow-up through citizen-based monitoring based on the use of local knowledge; this approach extends beyond the usual extent of EIA follow-up in the interests of sustainable livelihoods.

Need for EIA follow-up

Ultimately, follow-up is essential in determining the outcomes of EIA. By incorporating feedback into the EIA process, follow-up enables learning from experience to occur. It can, and should, occur in any EIA system to prevent EIA being just a pro forma exercise. At the micro-scale, learning about the

impacts of a proposal and the effectiveness of mitigation measures to control or contain impacts is especially important. Feedback from follow-up programmes can also facilitate learning about pre-decision EIA activities (such as the accuracy of impact prediction methods). This knowledge can be used by regulators and proponents alike to improve future EIAs. At the macro- and meta-scales, learning about the outcomes of EIA enables the effectiveness and utility of EIA procedures and concepts to be evaluated; again with the aim of improving future EIA practice (Morrison-Saunders and Arts, 2004b).

Follow-up links the pre- and post-decision stages of EIA, thereby bridging the implementation gap (Figure 1) that arises when there is a considerable difference between project plans (and their related environmental impact statements (EISs)) and their implementation (Arts *et al*, 2001). Pre-decision EIA is predictive; focusing on an uncertain future. Follow-up can address such uncertainties and deficiencies, which are intrinsic to EIA planning and decision-making processes, thereby rationalising these processes.

Ultimately it is not the predicted impacts but the real effects that are relevant for protecting the environment. Follow-up not only provides information

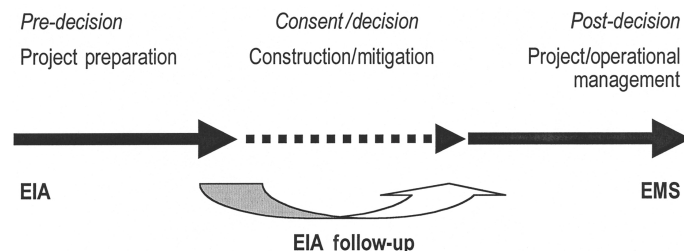


Figure 1. EIA follow-up bridging the implementation gap

Source: Marshall (2004)

about the consequences of an activity as they occur, it also gives proponents and/or EIA regulators the opportunity to implement measures to mitigate or prevent negative effects on the environment.

Naturally there is a cost associated with EIA follow-up in terms of financial and staffing demands, and it is important to realise that it may not be necessary to undertake ('full-blown') follow-up for all proposals undergoing EIA (Arts and Nooteboom, 1999). This highlights the need for careful screening and scoping in EIA follow-up to determine which proposals warrant follow-up in the first place and what aspects of the project and environmental performance should be examined (Baker, 2004; Arts and Morrison-Saunders, 2004). Evidence provided to date suggests that the costs and effort put into EIA follow-up are justified and outweighed by the benefits accrued (see, for instance, Marshall, 2004; 2005; Sánchez and Gallardo, 2005).

Principles

For the purposes of brevity and readability, the principles are presented as simple statements with supporting comments, modelled on the example set by Vanclay (2003). Further background on the source and derivation of the principles can be found in Marshall *et al* (2004) and Arts and Morrison-Saunders (2004) along with publications arising from IAIA conference workshops on EIA follow-up (Arts *et al*, 2001; Morrison-Saunders *et al*, 2001; 2003).

The principles start with statements of core values and progress towards more practical guidance to

direct the implementation of EIA follow-up. Specifically, principles:

- 1–3 present the core values (why?);
- 4–7 concern the roles and responsibilities of participants in EIA follow-up (who?);
- 8–10 address the nature of EIA follow-up (what?); and
- 12–17 address how EIA follow-up should be conducted (how?).

The principles are numbered consecutively and each is briefly explained or elaborated upon.

Why?

1 Follow-up is essential to determine EIA (or SEA) outcomes

Follow-up has the same goal as EIA, namely to minimise the negative consequences of development and maximise the positive. The emphasis is on action taken to achieve this goal. EIA has little value unless follow-up is carried out, because, without it, the process remains incomplete and the consequences of EIA planning and decision-making will be unknown. By minimising the negative and maximising the positive outcomes, EIA follow-up can safeguard environmental protection.

2 Transparency and openness in EIA follow-up is important

All stakeholders have a right to feedback on the EIA process. Actions and decisions resulting from EIA follow-up should be fair, transparent and communicated directly to stakeholders. Beyond the informing role, active engagement of stakeholders in follow-up processes with genuine opportunities for involvement is preferable.

3 EIA should include a commitment to follow-up

A clear commitment to undertake EIA follow-up is needed, with all parties accountable for their actions. Provision for a follow-up programme needs to be made in the pre-decision EIA process and carried out post-decision. Thus, follow-up commitments relate to programme preparation and implementation of monitoring, evaluation, management and communication as necessary.

Follow-up not only provides information about the consequences of an activity as they occur, it also gives proponents and/or EIA regulators the opportunity to implement measures to mitigate or prevent negative effects on the environment

Who?

4 *The proponent of change must accept accountability for implementing EIA follow-up*

As the polluter, proponents must give careful consideration to the consequences of their actions and the necessity for EIA follow-up. They should be responsible for the mitigation of adverse effects and for the communication of follow-up results to stakeholders. Proponents should take advantage of the benefits of EIA follow-up as a project-management instrument and to realise cost savings.

5 *Regulators should ensure that EIA is followed up*

Regulators should determine the need for EIA follow-up and ensure that it is implemented well. This comprises meeting regulatory requirements, securing a balance between the interests of the proponent and the community, ensuring proponent compliance and promoting learning from experience. Where the regulator is also the proponent, the competing roles of developer, funder, provider and decision-maker should be clearly distinguished to avoid conflicting interests.

6 *The community should be involved in EIA follow-up*

At the very least, the community should be informed of EIA follow-up outcomes, but direct community participation in follow-up programme design and implementation is desirable. Benefits may flow from active community involvement in EIA follow-up, including sharing of special local knowledge, focused programme design, building trust and partnerships.

7 *All parties should seek to co-operate openly and without prejudice in EIA follow-up*

Proponent, regulator and community interests are often intertwined, and their cumulative interest should initiate practicable and reasonable EIA follow-up programmes. Despite individual interests, EIA follow-up will be successful where a shared sense of purpose to avoid, reduce, or remedy adverse environmental effects is acknowledged. Participants in the EIA follow-up process should seek consensus on procedural and methodological approaches. All parties must be committed to carrying out their required tasks and to responding constructively to the findings of EIA follow-up.

What?

8 *Follow-up should be appropriate for the EIA culture and societal context*

There is no single formula for undertaking successful EIA follow-up. It should be custom-made for the legislative and administrative,

socio-economic and cultural circumstances; and dovetail with existing planning, decision-making and project-management activities. There may be no need to invent completely new procedures for EIA follow-up as other mechanisms may suffice; for example, environmental management systems (EMS) or state-of-the-environment reporting.

9 *EIA follow-up should consider cumulative effects and sustainability*

Application of EIA follow-up at the individual project level is intrinsically limited in terms of dealing with cumulative effects of multiple developments and sustainability issues. This may necessitate application beyond the individual project level; for example, strategic-level or area-oriented approaches.

10 *EIA follow-up should be timely, adaptive and action-oriented*

Adaptability and being proactive are key to maximising the benefits of EIA follow-up as environmental management issues are best tackled in this way. Monitoring data collection and evaluation activities should be sufficiently frequent for the information generated to be useful to stakeholders, but not so frequent as to be a burden to those implementing the process. Actions must be efficacious to meet the defined goals of EIA follow-up programmes.

11 *EIA follow-up should promote continuous learning from experience to improve future practice*

EIA follow-up should not be static; it should always strive to maximise learning from experience through active feedback. Thus good EIA follow-up requires good communication.

How?

12 *EIA follow-up should have a clear division of roles, tasks and responsibilities*

A clear division of roles, tasks and responsibilities is required. The roles in EIA follow-up should be identified in pre-decision EIA documentation and subsequent EIA approvals and management systems. This should be set down as a series of clearly defined steps outlining tasks and responsibilities within and among the different parties, and all practitioners involved must discharge their tasks competently.

13 *EIA follow-up should be objective-led and goal-oriented*

To be most effective, EIA follow-up should seek to achieve defined objectives or goals, which may include:

- controlling projects and their environmental impacts;
- maintaining decision-making flexibility and

- promoting an adaptive management approach to EIA and project management;
- improving scientific and technical knowledge;
 - improving community awareness and acceptance of projects; and
 - integrating with other information (for instance, state-of-the-environment reports or EMS).

This is an integral task of scoping in EIA follow-up.

14 *EIA follow-up should be 'fit-for-purpose'*

EIA follow-up must be commensurate with the anticipated environmental effect. As each project is unique in terms of specific design, location and affected stakeholders, so too must EIA follow-up programmes be tailored to the proposed activity, its stages and dynamic context. To maintain focus, ongoing scoping is needed in EIA follow-up. There is also a need to keep EIA follow-up practicable and feasible — to focus on the 'art of the possible'.

15 *EIA follow-up should include the setting of clear performance criteria*

Performance criteria used in EIA follow-up actions or programmes should be rigorous and reflect best practice. This should be enacted through well-defined methodologies or approaches to monitoring, evaluation, management and communication. Such actions should produce useful information and outcomes that can be easily measured and unambiguously appraised against clear criteria.

16 *EIA follow-up should be sustained over the entire life of the activity*

The need for, and content of, EIA follow-up should be determined early, for example, during screening and scoping in EIS preparation. EIA follow-up actions or programmes should cover not only the design and construction of a development, but also the operation and, where relevant, the decommissioning phase. It should not be restricted to one specific life stage of development. EIA follow-up must also be responsive to long-term and short-term environmental changes.

17 *Adequate resources should be provided*

EIA follow-up must be cost-effective, efficient and pragmatic. Time, staff and capacity needs must be appropriately provided for in advance. EIA follow-up should be done to best-practice standards and should ensure that effective actions are taken when needed.

Future directions: where to from here?

The core values and principles presented here provide a conceptual starting point for EIA follow-up.

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To become reality, they have to be implemented in practice. There is a primary role here for EIA practitioners to develop the field, to learn from experience and to form networks that will help promote best-practice follow-up and to embed the values and principles into regulations and EIA practice world-wide.

EIA follow-up practice might be enhanced through:

- The development of formal procedures for follow-up in EIA regulations where currently absent or in need of refinement.
- The development of guidelines to promote EIA follow-up practice that are specific to the context of use (for instance, within a particular jurisdiction).
- The development and application of practicable methods and techniques that promote best practice.
- Education and capacity building for generic EIA follow-up practice internationally and for application within individual jurisdictions.
- The promotion of continuous improvement through national and international networks.

The key to advancement of EIA follow-up is to enhance learning from experience at all levels of application and practice. These principles are only a starting point for this learning process and it is hoped that they will help to inform ongoing debate. We all still have a lot to learn!

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