

Starting at the end: a proposal to improve ESIA effectiveness

Steve McIlwaine¹, Queen's University Belfast

Sarah Murfitt², SMC Limited

Presented at IAIA 2024, Dublin, Ireland 24 – 27 April 2024

Note: we hope to progress this paper for future submission to a peer-reviewed journal

Abstract

ESIAs are sometimes criticised for being overly academic, with focus placed on baseline data collection and impact analysis rather than the design and development of a realistic and actionable, properly-resourced management plan which will cascade down through the project design stages and into construction and operation. Regulators are often under-resourced and sometimes fail to appreciate the need for detailed and workable controls which will adequately address E&S risks during project development.

This paper will examine four infrastructure projects whose management plans had to be re-opened or re-worked in order to produce a sufficiently robust and granular management plan which would bring the project into line with the lender's E&S requirements.

Based on this project experience, the paper will propose a novel approach to ESIAs, whereby the study is driven by a provisional management plan developed during the scoping stage. This front-loaded, outcome-oriented approach will produce management plans that are more fit-for-purpose, proportionate and cost-effective, improving E&S management throughout the life of a project and will allow early identification of resource issues and capacity building needs. The approach is based on the concept of adaptive management – a focused, structured, iterative process that informs robust decision making. The paper will set out recommendations for how to apply this approach, while avoiding typical obstacles to implementation, and invite consideration by IAIA attendees.

1. Introduction

While there has been much improvement over the years on the ESIA³ process, concerns remain about post-permitting follow up and on the overall effectiveness of ESIAs to materially address project impacts. Discussions at IAIA 2002 focused on EIA follow up (Morrison-Saunders et al, 2003) and led to publication of International Principles for best practice EIA follow up, (Marshall, et al (2005). A decade later, Bennett et al (2016) examined the effectiveness of management plans to address environmental impacts, and found that not all jurisdictions require EIAs to include EMPs, and even when they do, their quality and level of detail is highly inconsistent. They noted that although the EMP is an important link between the EIA process and the post-consent management of risks, their effectiveness as a tool to address risks was unclear. They suggested that many EMPs do not effectively consider how projects will be procured and contracted. As recently as 2018, Loomis and Dziedzic (2018) examined 64 studies on EIA evaluation, and concluded that empirical evidence is still lacking on how effective EIAs are in actually reducing impacts in practice, and did so interestingly without once mentioning EMPs or management plans.

This paper uses a qualitative approach to look at the ESIA process from the perspective of the management plans. Building on the authors' experience, it examines the ESIAs from four infrastructure projects and argues that the management plan is the crucial output of an ESIA, and the one element which leads to the project changes necessary to reduce risks. It asks whether the

¹ s.mcilwaine@qub.ac.uk

² sarah@sarahmurfittconsulting.com

³ ESIA is used in this paper as a generic term which also covers EIA. The authors understand that these are not exactly the same but the main principles being discussed here apply to both. Same for ESMP and EMP throughout.

focus of effort and resources in ESIA's could be allocated more effectively, and proposes a revised, outcome-orientated approach to ESIA's which is focused on the development of effective management plans.

2. Comments on the typical ESIA process

Traditionally, ESIA's are founded on a detailed and often costly baseline investigation which produces colourful and detailed baseline chapters, often with quantitative and spatial detail. But very often, the detailed descriptive baseline does not strongly inform the impact identification and particularly the management plans.

Conversely, the management plans – arguably the most important aspect of the ESIA since they are the one element that remains 'live' throughout the project – are often done in a rush, towards the end of the ESIA process and with only a fraction of the resources and consideration of the baseline and impact assessment stages.

Rarely in the authors' experience, do the management plans feature any of the spatial detail which has been captured in the baseline. In fact, many management plans are so light in specific project and spatial detail, that they could arguably have been written before the impact assessment was conducted.

Management plans are often drafted wholly by the ESIA team with little involvement from the project's technical/implementation team, and are rarely informed by the mechanisms and timetable by which the project will be implemented.

Crucially, management plans rarely effectively consider the project owner's capacity (human and financial) to implement them, and are often written as a high-level 'tick box' exercise with the detailed planning pushed down the chain to construction contractors, rather than as a serious means to address the E&S risks identified. Yet capacity gaps are a key obstacle to effective implementation.

Overall, we argue that the typical ESIA process is too 'front-heavy', i.e. it places too much emphasis on a detailed baseline investigation and too little effort on developing practical and detailed project-focused management plans which will adequately address the risks and impacts identified. Much of the ESIA's effort and resources are therefore often effectively wasted as they do not lead to robust and effective management plans which can be practically implemented within the constraints of the project.

3. Project case studies

In producing this paper, four specific projects were examined. These are summarised briefly here but without detail and maintaining their anonymity in order to protect the projects. They will be expanded in the journal article to be developed following the IAIA 2024 Conference. Here, one key feature is drawn out from each case.

Case A: An operating mine project with an approved ESIA, but where the ESMP was found to have been taken from a different project and was neither appropriate to the project in question, nor implementable. A new ESIA was required to take account of process changes, and to develop appropriate management plans.

Case B: A second mine project where the management plans had captured none of the relevant spatial detail necessary for effective control, despite such spatial detail having been captured in the ESIA. Although the ESIA with its management plans had been approved, the client requested that the plans be re-developed with sufficient detail for the project to implement.

Case C: A new highway project in southern Europe where although an ESIA has been approved, with an ESMP, it later transpired that the operational actions from the ESMP could not be guaranteed by the client, as a different Government agency was responsible for the operations phase. So the ESIA had been approved, the project permitted and works begun, despite the parties knowing that some key ESMP actions would not be implemented.

Case D: A large scale linear infrastructure project in Africa where an ESIA was submitted with significant management plans totalling over 200 pages with hundreds of actions, most of which would be the responsibility of a national Government institution. Despite the extent of the ESMP, the mapping and spatial data on vulnerable receptors produced in the baseline was effectively wasted as the information was not reflected in the management controls. Additionally, despite attempts by the consultants, there had been no review or sign-off from the implementing institution. There was significant disconnect between the level of detail in the ESMP and the capacity of the project owner and parties responsible for ESMP implementation. These gaps in capacity were never identified and the parties do not expect this to be implemented effectively.

These cases support the concerns raised earlier, and illustrate that ESIA do not prioritise the development of useful, detailed and workable management plan which can be implemented by the project. In all cases, there is a significant disconnect between the information and understanding developed in the early phases of the ESIA study, and the 'resulting' management plans. Resources are focused towards the baseline and impact assessment, with the management plans developed quickly later, with insufficient involvement from the project's technical specialists. The effectiveness of the implementation suffers, and ultimately the usefulness of the ESIA process in helping the project mitigate its E&S risks and impacts is compromised.

This paper therefore asks – is there a better way to conduct an ESIA which recognises the time and resource constraints, and the realities of how the control actions will be implemented going forward by the project owner? Could the limited resources of the ESIA study be reprioritised with a stronger focus on management plans, and how could this be done?

4. Proposed new approach

4.1 Aims of the new approach

Based on the above, the authors suggest that a new approach is needed which provides:

1. A **stronger alignment** between the impact assessment and the ESMPs, with more of the spatial mapping and project understanding reflected in the management plans.
2. More emphasis on the **ESMPs as the key output** from the ESIA, with the focus of the study on producing usable management plans, rather than extensive baseline mapping.
3. Management plans which reflect **more understanding of the how the project will be implemented** by the project owner.

4. Plans which reflect a realistic **understanding of the capacity of the project owner** to implement the management control actions, including identification of where technical support or capacity building is required.

5. **Plans developed early and in conjunction with the project owner**, involving collaborative working sessions to identify how actions could be addressed and built into to the project development and at what stage. The project owner should not be seeing the management plans for the first time in the draft ESIA report.

4.2 Outline of the proposed approach

One potential way to integrate the above into the ESIA process is to introduce a requirement to develop a provisional set of management plans during the scoping stage, before the assessment begins.

In this proposal, a provisional set of management plans would be developed during the scoping stage based on whatever information was available at the time, and professional judgement and experience. These plans would be informed by stakeholder engagement and would focus on the sphere of influence of the project and the likely actions under its control.

Since management plans produced at the scoping stage will necessarily be provisional, based on incomplete information, and contain only high-level detail, they will expose any gaps in understanding on the project and its activities, the surrounding environment, and the likely effects, as well as raise questions about how and where some of the required mitigation actions should be applied. These gaps would inform development of the Terms of Reference for the remainder of the study, with a re-orientation of the entire ESIA plan around the question *'what information do we need to design appropriate control measures for the project to enact'*, rather than on a stepwise, academic characterisation of the baseline and impact assessment for its own sake.

The new approach is illustrated in the following Figure, with the traditional process in black, and the modifications shown in red.

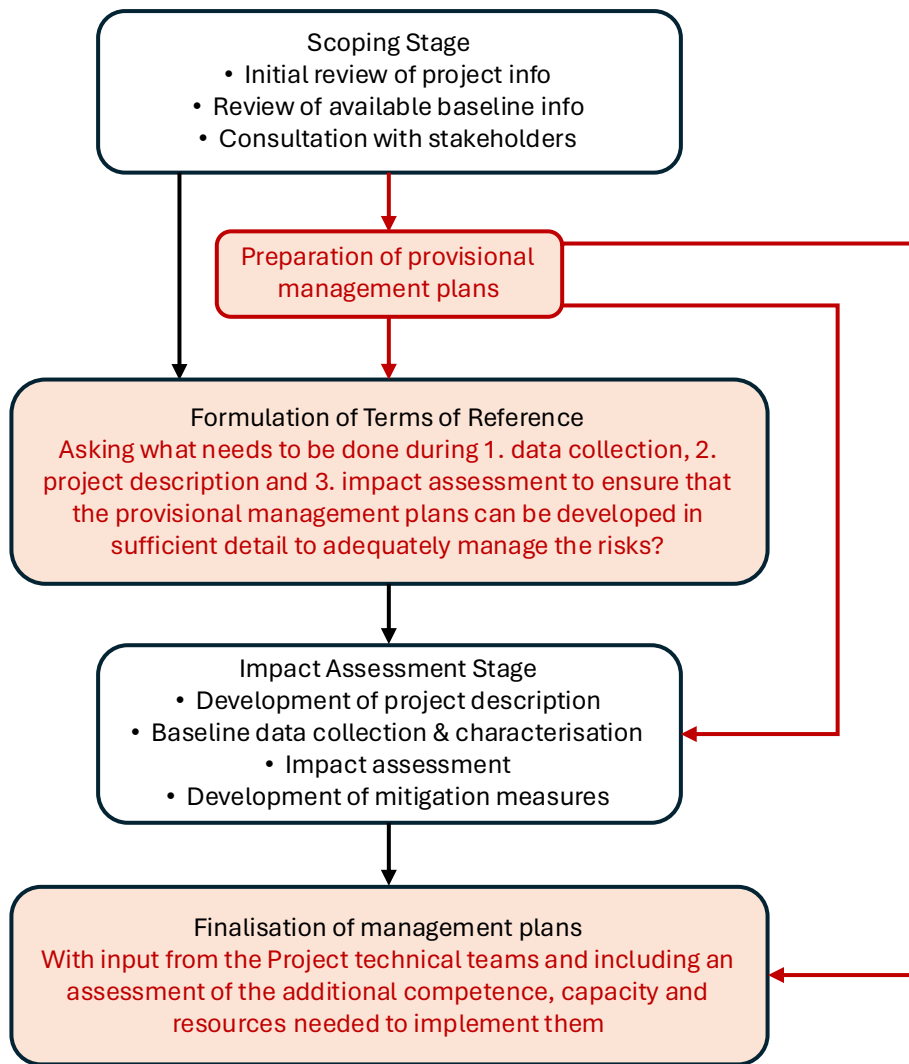


Figure 1. Proposed Management Plan-led ESIA Process

This management plan-focus would guide the prioritisation of resources at each stage of the study. Having the provisional plans at hand throughout the assessment will help ensure that efforts on data collection and impact assessment are focused on providing more detailed and useful management plans, rather than on a stand-alone baseline characterisation and impact assessment which although perhaps intellectually satisfying, does not usefully inform the key output from the study, namely the management of E&S risks and impacts of the project.

4.3 Advantages of the new approach

This approach would identify where gaps in baseline understanding need to be addressed in order to develop the management plans in sufficient detail, and would focus the data collection on what data needs to be collected for the study, and what doesn't. This could save both time and budget as the data collection phase is often heavy on resources.

It would focus definition of the scope of the study away from a more theoretical '*how could this project potentially affect its environment*' and towards '*what do we need to know to design the control measures needed to manage the E&S risks and impacts of this project*'. This could make ESIA studies more streamlined and less unwieldy. ESIA studies are often criticised for their length.

It would introduce a project-focused approach from the outset, formulated around identifying what actions the project needs to take, rather than having management plans as a bolt-on afterthought.

It would highlight the need for input from the project team in the development of management plans, so that appropriate technical definitions are incorporated, and actions required to embed the required actions in the project development are identified.

Early consideration of the mitigation and management measures from a project perspective, would allow consideration of the capacity of the project team and the resources available to implement them. Requiring the ESIA to identify capacity gaps – basically identifying the implementation risks and capturing the mitigation measures needed to avoid these risks - would highlight whether additional support to the project owner was needed around hiring, training, consultant support, equipment, etc.

Where baseline measurements are needed only for a pre-project baseline against which changes arising during the course of the project can be measured, they could be captured in the management plans as a permit-condition-action to be undertaken prior to construction rather than as part of the ESIA.

In addition, perhaps a management plan-focus would allow projects to push back on regulators against the need for extensive baseline data collection for its own sake. A plan-focused approach provides a way of justifying why the baseline data collection may be reduced, or where some data collection can be moved into the management plan stage, rather than enacted in the ESIA. Agreement with the regulator on the approach and scope may be easier with this new focus, although more capacity building may be needed..

5. Criticisms and next steps

These proposals will be critiqued by practitioners - clients, developers, ESIA consultants, environmental regulators and lenders, and several criticisms could be levelled, not least:

1. Impacts need to be identified before they are mitigated, and the ESIA study should not preclude identification of effects not known at scoping stage.
2. It is risky to reduce focus on the baseline data collection, and many regulators are comforted by large data collection campaigns.
3. The ESIA study is often conducted too early in the process to identify appropriate measures and develop management plans to the detail being asked for here.

However, it would be interesting to trial this revised approach, to understand whether it will have the outcome described. This would require some project/ESIA clients to produce a revised scope of work for ESIA's, with new requirements: 1. For outline management plans to be developed during scoping; and 2. To require these provisional plans to inform the ESIA Terms of Reference and each subsequent stage of the work; 3. To examine implementation capacity and strengthen the emphasis on workability and detail of the management plans produced at the end of the ESIA study, and 4. For monitoring of the degree to which this innovation changes or improves the process.

To this end, the authors would welcome correspondence from parties interested in further detailing and trialling a revised approach.

6. References

Bennett S., Kemp S., Hudson M.D. (2016), *Stakeholder perceptions of Environmental Management Plans as an environmental protection tool for major developments in the UK* in *Environmental Impact Assessment Review*, 56, pp. 60 - 71.

DOI: [10.1016/j.eiar.2015.09.005](https://doi.org/10.1016/j.eiar.2015.09.005)

Fischer, T.B., Fonseca, A., Geißler, G., Jha-Uhakur, U., Retief, F., Alberts, R., Jiricka-Pürner, A., (2023) *Simplification of environmental and other impact assessments – results from an international online survey*, *Impact Assessment and Project Appraisal*, 41:3, 181-

189, DOI: [10.1080/14615517.2023.2198839](https://doi.org/10.1080/14615517.2023.2198839)

Loomis, J., Dziedzic, M. (2018), *Reviewing EIA systems' effectiveness: A state of the art*, *Environmental Impact Assessment Review*, 68 (2018) 29-37.

<https://doi.org/10.1016/j.eiar.2017.10.005>.

Morrison-Saunders, A, Baker, J & Arts, J 2003, *Lessons from practice: Towards successful follow-up*, *Impact Assessment and Project Appraisal*, 21:1, 43-

56. <https://doi.org/10.3152/147154603781766527>

Marshall, R., Arts, J., Morrison-Saunders, A., *International principles for best practice EIA follow-up*, *Impact Assessment and Project Appraisal* 23 (2005): 175 - 181.

DOI:[10.3152/147154605781765490](https://doi.org/10.3152/147154605781765490)