

Towards a Conceptual  
Framework for improved  
Monitoring and Evaluation of  
SEA Outcomes: A  
Discussion Note



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# SECTION 1

## Introduction

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This note responds to DFID's request for a short analysis of the scope for improving the monitoring and evaluation of SEA and is framed around two questions:

1. How can standard SEA process be modified to incorporate robust long term monitoring frameworks which facilitate outcome mapping and impact assessment?
2. What tools can be integrated to better enable measurement of impacts and outcomes?



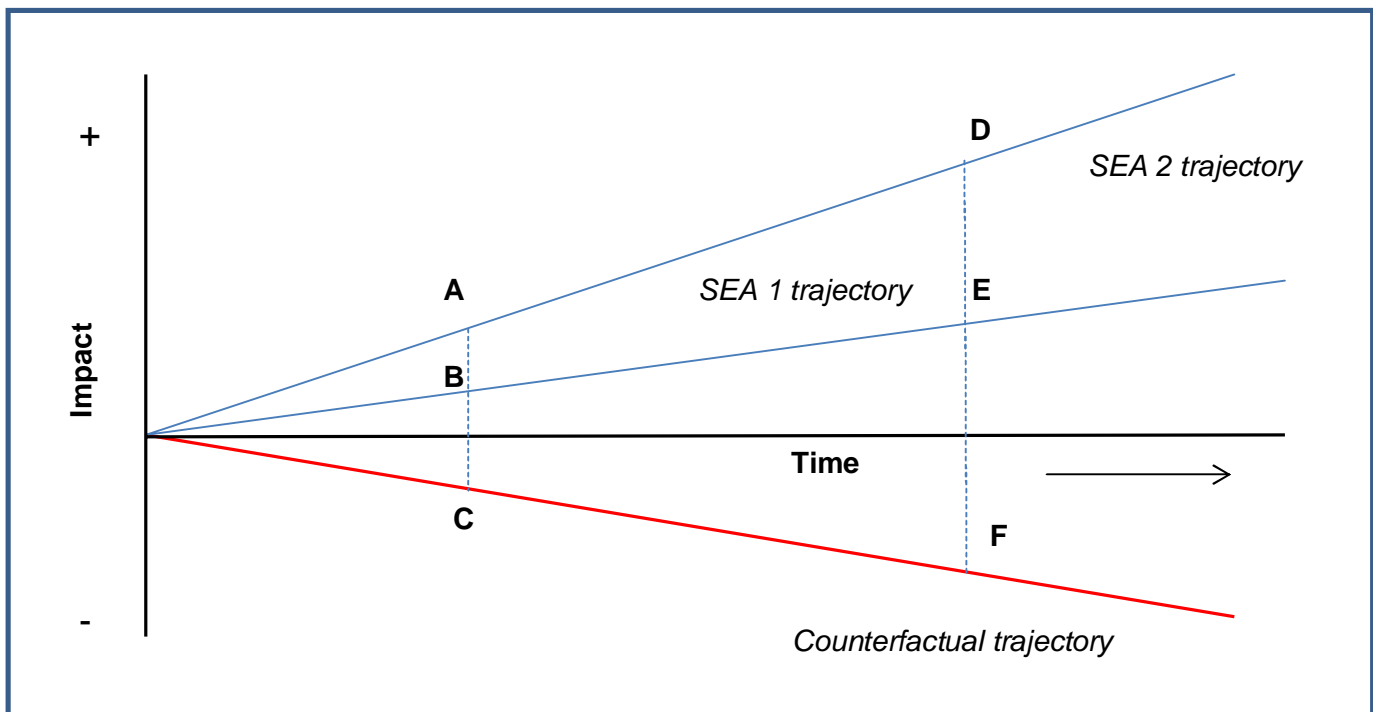
# SECTION 2

## Modifying the Standard SEA Process

### A. Defining “good” SEA

Theoretically, any SEA intervention should lead to an outcome that improves policies, plans and programmes (PPP) relative to the counterfactual – how things would be without SEA. However, documenting the change that results depends on a number of factors illustrated in Figure 1 below.

Figure 1: Challenges in identifying SEA impact

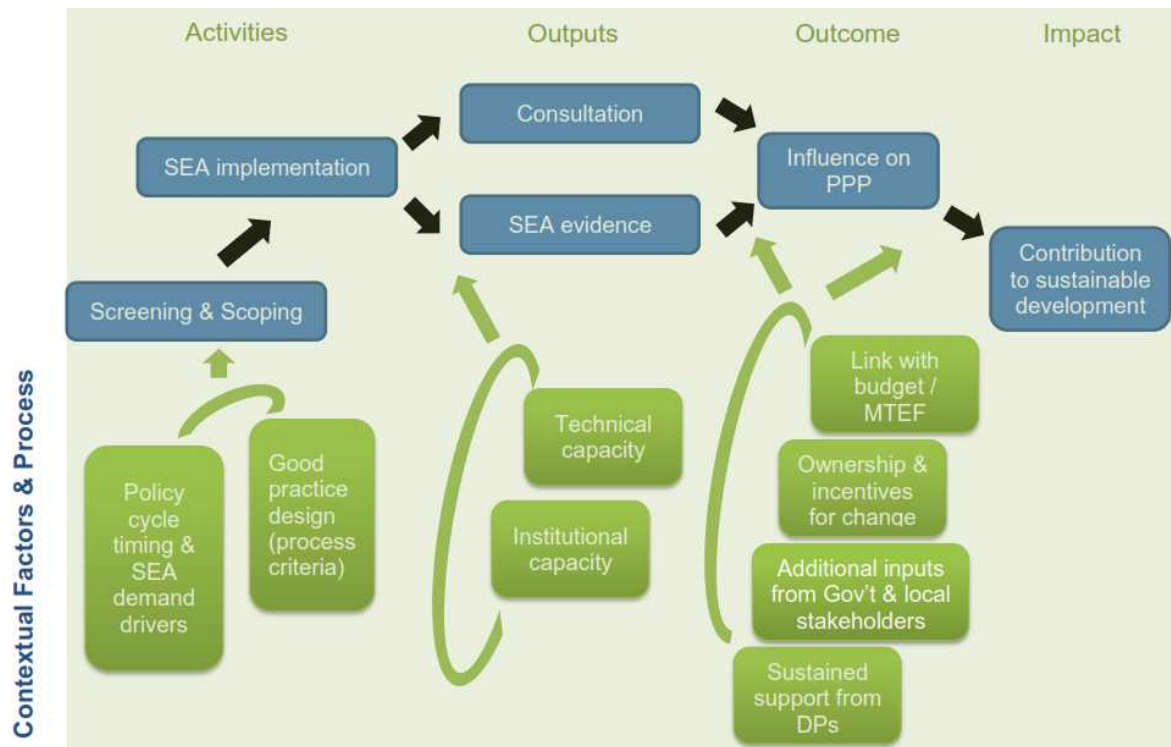


It should be immediately apparent that *when* an evaluation of the impact of an SEA is undertaken makes a difference. In the Figure above, an assessment after the SEA results are presented might identify the difference **A – C** whereas ex-post evaluation several years later might identify the difference **D-F**.

Evaluators try and capture this by asking those designing the intervention (SEA in this case) to specify the logical process by which they expect to deliver impact over time. DFID, of course, has the logical framework to provide a snap-shot of this process and supports the use of Theory of Change (ToC) for impact evaluation<sup>1</sup>. As a starting point, Yaron and Nelson (2013) suggest an outline ToC, based on a meta-analysis of major SEA reviews undertaken over the past decade.

<sup>1</sup> See Vogel (2012)

Figure 2 An outline SEA Theory of Change



Source: Yaron and Nelson (2013)

It is important to stress that **every SEA should develop its own ToC**. However, the conceptual framework in



Figure 2 illustrates the type of issues that need to be considered in an SEA ToC and the critical role of the “influencing environment” in moving from Output, to Outcome and Impact.

A second point to note on comparing the effect of SEAs at different times (and stages along their ToC) is that ultimate impact is very likely to depend on decision takers, organisations and institutions beyond the control of those commissioning the SEA. The “influencing environment” is very important. One implication of this is that SEA design has to take account of this complexity and this is discussed in the next section of the report. Another implication is that when it comes to identifying the outcomes and impact of an SEA the role of the SEA needs to be distinguished in the bigger picture. This is where the technique of *contribution analysis* is potentially very useful<sup>2</sup>. This tends to make use of the ToC to identify where factors other than the intervention are needed to achieve impact, for example, additional development partner support or mobilising the Ministry of Finance as a champion.

There is a related conceptual issue at stake as the end result of an SEA is sometimes seen as producing evidence for stakeholders and decision takers whereas other practitioners will define policy or programme change as the objective. This has broad implications for development aid, but just for evaluation it is essential to compare “apples with apples” rather than “apples with pears”. Many SEA reviews are based on published SEAs, relying primarily on literature reviews and are therefore focussed on the relatively early stage of producing evidence as well as the SEA process (discussed further below). However, evidence on outcomes and impact is best served by reviews that also consider subsequent uptake of findings, taking a longer time horizon and looking for interventions that secure policy or programme change.

A third issue that needs to be taken into account when evaluating SEA impact is the kind of evidence available. Quantitative economic evidence used in cost-benefit or cost-effectiveness analysis provides a powerful method of comparing the cost of an intervention with outcomes expressed in monetary terms. This does not imply that “weak sustainability” is the correct approach or that the tools to quantify the necessary ecosystem services are available. However, if monetary values are not used, the costs of an SEA still need to be rigorously compared with expected and achieved benefits. This has generally not been done by SEAs and makes impact evaluation more difficult.


The fourth issue illustrated by Figure 1 is the role of the counterfactual – what happens if the SEA is not undertaken and there is no consequent change in policy or programme. Any impact assessment should be against a counterfactual. The difference that an SEA makes therefore depends on identifying the result of “business as usual” as well as the changes from adopting SEA recommendations.

Specifying the counterfactual for SEA is typically significantly more difficult than that for Poverty and Social Impact Assessment (PSIA)<sup>3</sup>, for example, where the current winners and losers from subsidised energy supply can typically be identified using household survey data and focus groups. It is quite possible that an SEA will need to present scenarios of the implications of business as usual to stakeholders (as part of the ToC exercise) to establish a counterfactual, or most likely counterfactuals. The counterfactual impact includes environmental, social and economic dimensions and these need to be captured systematically and rigorously if a distinction is to be made between “A-C” from “B-C”, in Figure 1 for example.

<sup>2</sup> See Eirich and Morrison (2009)

<sup>3</sup> World Bank (2003), World Bank User’s Guide to PSIA, <http://go.worldbank.org/IR9SLBWTQ0>





A final point to note when trying to identify SEA impact is that the SEA *process* is a key determinant of subsequent impact. In terms of Figure 1, following good or poor SEA design and implementation practice could produce the difference between SEA 1 and SEA 2 trajectories. Although reviews of SEA practice have not articulated the issue in this way, it is almost certainly one of the reasons why so much effort has been devoted to identifying good process rather than quantifying good outcomes<sup>4</sup>. There is also an implicit argument that drawing on experience is a very low cost way of avoiding expensive mistakes in future. The evidence for this is so widespread that it does not need to be justified. However, the author of the report would argue that:

- A conceptual framework for comparing similar SEAs should be used so that those synthesising evidence from one type of SEAs (e.g. in the water sector) have to explain why lessons will apply to other SEAs (e.g. in the energy sector).
- SEA practitioners should be allowed to deviate from recognised good practice if it can be shown why an alternative (potentially innovative) approach makes more sense.
- While SEA process evaluation is still valuable, the biggest gap is in impact assessment.


## B. Modifying the SEA process for robust M&E

The comparison of SEA reviews undertaken for the EU, OECD and World Bank and discussed in Yaron and Nelson (2013) demonstrates there is no universal “standard SEA process”. However, for the purpose of this exercise the SEA process set out by the SEA Task Team established under the OECD-DAC Environet Committee (OECD, 2006) is used as a starting point. This is shown in Box 1 below.

### Box 1 Stages and Steps in Undertaking SEA (OECD, 2006)

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<sup>4</sup> Other reasons are that process evaluation can be done at the same time as the SEA and does not have to contend with the difficulty of quantifying impact.



Although Box 1 builds on established EIA practice, it is helpful to re-state the process as follows for the purpose of developing an M&E framework. Note that *there is a role for M&E*

- 1. Establishing the context to the SEA**
  - Screening
  - Setting objectives
  - Identifying stakeholders
- 2. Implementing the SEA**
  - Scoping (in dialogue with stakeholders)
  - Collecting baseline data
  - Identifying alternatives
  - Identifying how to enhance opportunities and mitigate impacts
  - Quality Assurance
  - Reporting
- 3. Informing and influencing decision-making**
  - Making recommendations (in dialogue with stakeholders)
- 4. Monitoring and evaluating**
  - Monitoring decisions taken on the PPP
  - Monitoring implementation of the PPP
  - Evaluation of both SEA and PPP

*at each stage of the SEA process.* Theory of Change (ToC) at the screening phase is likely to mean alternative scenarios each with an outline ToC. For example, a low impact scenario might just involve the Ministry of Environment producing new policy recommendations with a 40% chance of approval while a high impact scenario would involve Ministry of Finance support translated into the MTEF or PRS.

**Box 2 Integrating M&E into the SEA process**

SEA Process	M&E approach	Implications
<p><b>1. Screening</b></p>	<p>Define what is at stake:</p> <ul style="list-style-type: none"> <li>• Define counterfactual (business as usual)</li> <li>• Construct ToC &amp; potential changes from SEA (scenarios)</li> <li>• Calculate <b>magnitude</b> of likely environmental, social and economic impacts</li> </ul>	<p>Only consider SEA if the expected gains significantly outweigh costs in plausible scenarios What are the critical assumptions for this to occur? Challenge them Are there alternatives to SEA?</p>
<p><b>2. Scoping &amp; stakeholder identification</b></p>	<p>Assess proposed SEA against international good practice standards. For example:</p> <ul style="list-style-type: none"> <li>• Timing to influence policy</li> <li>• Influential champion</li> <li>• Stakeholder engagement</li> <li>• Sufficient resources available</li> <li>• Incentives for uptake of findings</li> </ul>	<p>Depending on assessment alternatives are to:</p> <ul style="list-style-type: none"> <li>• Avoid doing the SEA</li> <li>• Pilot at small scale</li> <li>• Design to best practice</li> </ul>
<p><b>3. Implement SEA</b></p>	<p>Refine ToC with stakeholders: impact &amp; outcomes (Env, Soc, Ec), intermediate steps, outputs, assumptions &amp; risks) Develop M&amp;E indicators of change (including institutional capacity) Also monitor <i>process</i> against best practice indicators</p>	<p>Self-reporting for small SEAs SEA &amp; M&amp;E specialists in one team Estimates of impact can be refined &amp; baseline work for institutional collaboration outputs done at this stage Use stochastic outcome mapping?</p>
<p><b>4. Report results to decision makers &amp; stakeholders</b></p>	<ul style="list-style-type: none"> <li>• Monitor output and outcome indicators to capture changes so far</li> <li>• Review the ToC</li> <li>• Re-estimate expected benefits &amp; costs of SEA</li> <li>• Document changes &amp; learning</li> </ul>	<p>Meta-analysis of SEAs to see how estimated benefits &amp; costs changed over SEA Meta-analysis of SEAs using consistent indicators of institutional capacity change</p>
<p><b>5. Support implementation of recommendations</b></p>	<ul style="list-style-type: none"> <li>• Impact evaluation for selected SEAs</li> <li>• Post DP support SEA evaluation</li> <li>• Contribution analysis as SEA is only one influence on policy change – going back to ToC</li> </ul>	<p>Evidence is that long-term constituency-building is needed (H&amp;D, 2009), WB et al (2010) so DPs should situate support for SEA within larger flexible programmes</p>



# SECTION 3

## Tools for better Measurement of Impact and Outcomes

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A number of innovative M&E tools could be brought in from other areas to implement the M&E process outlined above. These are outlined below. As they have been developed in different contexts a process of piloting these tools for SEA impact evaluations will be needed.

### A. Estimating the magnitude of SEA impacts

Early stage estimates of potential SEA impacts are needed for screening against likely costs. Hence the proposed tool would:

1. Identify environmental, economic and social benefits;
2. Attach a probability of realising these benefits (that would subsequently be challenged by stakeholders in the ToC process);
3. Allow benefits to be expressed in financial terms where this is acceptable (weak substitutability) and where evidence allows for conversion (e.g. tCO<sub>2</sub>); and
4. Otherwise, place expected impacts in magnitude categories. So, for example, hectares of forest protected or m<sup>3</sup> of fresh water; girls able to go to school – against small, medium, high, and very high impact levels once the probability of SEA success is taken into account. Any expected economic benefits that are not captured within these measures can be stated in financial terms.
5. Compare this with cost categories of SEA (low, medium, high, very high). Economic cost of SEA is the financial cost plus the time costs of (mainly public sector) staff and stakeholders.

Decision criteria on whether an SEA is likely to be good value would need to be agreed but, for example, could be SEA costs at least one category below estimated benefits. This type of approach has been used by DEFRA in the UK to prioritise spending on evidence and innovation.

### B. Stochastic output mapping

The term stochastic output mapping is a term the author uses to describe a form of output mapping developed by CDKN to monitor the results of the Advocacy Fund. In their case, there are many uncertainties over the precise ways that beneficiary institutions will use increased capacity to engage in more informed negotiation, form alliances or influence policies. Hence, having developed a ToC and an outline output map, they have identified three groups of increasingly demanding indicators ranging from “Like to see” to “Love to see”. There are a range of indicators within each category to allow for a variety of ways in which beneficiaries are likely to use new capacity. Targets are then defined in terms of the numbers or proportion of indicators reached in each category.

As successful SEAs also often bring institutions together and influence policy this approach to output mapping seems promising. More traditional forms of output mapping may also be relevant for large SEAs although they can be very resource intensive.

### C. Tracking constituency building and institutional capacity

Recommendations from water sector SEA reviews by Hirji and Davis (2009) and the World Bank, Swedish & Dutch policy SEA evaluation (2010) highlight factors such as building ownership, capacity and trust and constituencies for SEA findings.

Programme M&E indicators have not traditionally been very good at capturing these kinds of changes. DFID support to build Strategic Climate Institutions in Ethiopia (SCIP) has, however, required the development of indicators to track Multi-dimensional indicators of institutional and organisational capacity. These draw on the McKinsey OCAT model for NGOs to develop indicators targeted at institutions and organisations working on climate resilience and green growth.

An example is shown below:

#### ***Dimensions of the Institutional Capacity Assessment Matrix (ICAM)***

Governance and decision-making	<p>Institutional capacity to:</p> <ul style="list-style-type: none"> <li>• Articulate its purpose and vision.</li> <li>• Manage stakeholder representation and participation, and decision-making.</li> <li>• Mobilise and manage resources.</li> </ul>
Internal communications and knowledge management	<p>Institutional capacity to:</p> <ul style="list-style-type: none"> <li>• Operate effective internal communications systems.</li> <li>• Generate and share information and knowledge effectively</li> </ul>
External communications and influence	<p>Institutional capacity to:</p> <ul style="list-style-type: none"> <li>• Build and maintain networks and contacts.</li> <li>• Convene wider groups of stakeholders for common purposes.</li> <li>• Develop new institutional initiatives in response to relevant opportunities and initiatives.</li> </ul>
Policy engagement	<p>Institutional capacity to:</p> <ul style="list-style-type: none"> <li>• Make effective representations in policy processes/forums.</li> <li>• Prepare policy briefs.</li> <li>• Access and influence policymakers effectively.</li> </ul>

Source: Yaron, Blackshaw and Bultossa (2013)

ICAM indicator scores for each component are derived using a consistent methodology by trained interviewers.

It should be fairly straightforward to develop an ICAM and OCAM for SEA.



# SECTION 4

## References

Eirich and Morrison (2009), Contribution Analysis: Social Science Methods Series Guide 6, [http://www.bond.org.uk/data/files/Effectiveness\\_Programme/meetings/vfM/Contribution\\_Analysis\\_Paper.pdf](http://www.bond.org.uk/data/files/Effectiveness_Programme/meetings/vfM/Contribution_Analysis_Paper.pdf)

Hirji, R. and R. Davis (2009), Strategic Environmental Assessment: Improving Water Resources Governance and Decision Making, Water Sector Board Discussion Paper Series Paper No.12, The World Bank, Washington DC, April

OECD (2006) Applying Strategic Environmental Assessment. Good Practice Guidance for Development Cooperation. DAC Guidelines and Reference Series, OECD Publishing <http://www.oecd.org/dac/environment-development/37353858.pdf>

Vogel I. (2012), Review of the use of 'Theory of Change' in international development, DFID, [http://r4d.dfid.gov.uk/pdf/outputs/mis\\_spc/DFID\\_ToC\\_Review\\_VogelV7.pdf](http://r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf)

World Bank (2003), World Bank User's Guide to PSIA, Washington DC <http://go.worldbank.org/IR9SLBWTQ0>

World Bank (2010), University of Gothenburg, Swedish EIA Centre, and Netherlands Commission for Environmental Assessment (2010), Policy Sea: Conceptual Model and Operational Guidance for Applying Strategic Environmental Assessment in Sector Reform, World Bank <https://openknowledge.worldbank.org/bitstream/handle/10986/2866/553280REPLACEMENT1Final0Report12010.pdf?sequence=1>

Yaron G, Blackshaw U and G Bultossa (2013), M&E Capacity and Sustainability Report for DFID SCIP Ethiopia, LTS International

Yaron, G. and P. Nelson (2013), SEA in Practice: Capturing lessons learned over the past 10 years, Evidence on Demand Topic Guide, DFID, June