A Framework for Clarifying the Overall Scope and Meaning of Integrated, Triple Bottom-Line and Sustainability Assessment

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Introduction

• **Research question:** How should the assessment of mining projects be undertaken to ensure that the overall planning and decision-making process is directed towards achieving sustainable development?

  [SD-directed Assessment]

• **Literature review:** What features are generally promoted for improving the SD-directedness of assessments?

• **Confusing terminology:** Integrated Assessment, Sustainability Impact Assessment 3-E impact assessment and TBL Impact Assessment, SD ‘sharpened’ EIA etc. etc.
SD-Directed Features *Between*
Project Assessment & its Context

Integration of Stakeholders
SD-Directed Features *Within* the Assessment Process

**Objectives-led/Strategic Assessment**

**Triple Bottom-Line Assessment**

**Integrated Assessment**

**Sustainability Assessment**

**Algoresiveness** of focus & scope

**Integrated-ness** of techniques & themes

**Comprehensiveness** of SD Coverage
‘Right Hand Rule’ for SD-Directed Assessment

(Source: Adapted from: http://www.physics.udel.edu/~watson/phys345/class/1-right-hand-rule.html)
Comprehensiveness

Objectives-led/Strategic Assessment

Triple Bottom-Line Assessment

Integrated Assessment

Sustainability Assessment

STRATEGIC-NESS
of focus & scope

InTEGRATED-NESS
of techniques & themes

COMPREHENSIVENESS
of SD Coverage

Traditional EIA

Bio-physical environment only

All SD-related themes

‘Traditional’ EIA

Integrated Assessment

‘Triple Bottom-Line’ Assessment

Objectives-led/Strategic Assessment

INTEGRATEDNESS
of techniques & themes

COMPREHENSIVENESS
of SD Coverage
Comprehensiveness

• **Broaden coverage** from only bio-physical to environment, social and economic.

• Include **neglected themes/issues**, e.g. gender, health and biodiversity

• Arguments against:
  – Loss of focus
  – Dilution of environmental concerns
Comprehensiveness

• Broader coverage has been achieved by:
  – ‘Stretching’ EIA or SEA by broadening the definition of ‘environment’
  – Using techniques in parallel, such as conducting EIA, SIA and HIA.
  – Adding techniques to EIA or combining techniques, e.g. ESIA or S&EIA
  – Developing new techniques, e.g. Integrated Assessment and Sustainability Appraisal.
Integrated-ness

Integrated Assessment

Sustainability Assessment

Objectives-led/Sustainable Assessment

Comprehensiveness of SD Coverage

Strategic-ness of focus & scope

Integrated-ness of techniques & themes

'Traditional' EIA

Aligned

Combined

Separate

Integrated Assessment

'Triple Bottom-Line' Assessment

Objectives-led/Sustainable Assessment

STRATEGICNESS

COMPREHENSIVENESS
Integrated-ness

‘Chicken or Egg’ relationship between technique and theme integration

- Enhanced assessment of a particular theme
- Use more techniques
- Improved efficiency and consistency
- Integration of techniques
- Broader thematic coverage
- Improved understanding of interrelationship
- Integration of themes

?
Integrated-ness

Relationship between thematic coverage and integration objectives

Technique Integration

Theme Integration

Changing integration objectives

Single theme

Many themes

COMPREHENSIVENESS
of SD Coverage
Examples of Technique Integration

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>ENVIRONMENTAL</th>
<th>SOCIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic (PPP) Level</td>
<td>SEA</td>
<td>CBA</td>
</tr>
<tr>
<td></td>
<td>Technology Assessment</td>
<td>Technology Assessment</td>
</tr>
<tr>
<td></td>
<td>IEA</td>
<td>IEA</td>
</tr>
<tr>
<td>Project Feasibility and Approval</td>
<td>LCA</td>
<td>HIA</td>
</tr>
<tr>
<td></td>
<td>Risk Assessment</td>
<td>SIA</td>
</tr>
<tr>
<td>Project Operation</td>
<td>EMS</td>
<td></td>
</tr>
</tbody>
</table>

Integration within a theme and across levels

Integration between themes at the project-level
Integrated-ness

• Why integrate the themes?
  – See the complete picture
  – Explore linkages and interdependencies
  – Make or explore tradeoffs (compare impacts)
  – Determine the overall benefit/cost (aggregate impacts)
Integrated-ness

• Approaches to integration:
  – Linking techniques via ‘frameworks’
  – ‘Stretching’ EIA or combining EIA and SIA
  – Using ‘integrating’ techniques, e.g. CBA
  – Developing new techniques
  – Using interdisciplinary teams

• Challenges:
  – Disciplinary protectionism
  – Resistance from decision-makers
  – Loss of focus and dilution
Strategic-ness

Objectives-led/ Strategic Assessment

Triple Bottom-Line' Assessment

Integrated Assessment

Sustainability Assessment

STRATEGIC-NESS of focus & scope

SD/ Broad

Impact minimisation/ Narrow

‘Traditional’ EIA

COMPREHENSIVENESS of SD Coverage

INTEGRATED -NESS of techniques & themes

Integrated Assessment

‘Triple Bottom-Line’ Assessment

Objectives-led/ Strategic Assessment

STRATEGIC-NESS of focus & scope
Strategic-ness

• Two ‘strands’:

  Scope

  Focus

STRATEGIC-NESS
of focus & scope
Strategic-ness: Focus

• Shift in assessment goal:

  Mitigation/ avoidance of **negative impacts**

  Enhance **positive impacts**

  Contributes to/ Achieve **Sustainable Development**
Strategic-ness: Focus

Baseline-led versus Objective-led Assessment ‘Benchmarks’

(Adapted from Wathern, 1988)
Strategic-ness: Focus

Possible sources/ types of **assessment criteria:**

<table>
<thead>
<tr>
<th>Standards and guidelines</th>
<th>Analogy: ‘Going for a walk’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline <strong>trends</strong> (&amp; judgment)</td>
<td>Favour downhill routes</td>
</tr>
<tr>
<td>Developed using <strong>stakeholder opinion</strong> (‘wish lists’)</td>
<td>Get ‘everyone’ to say where they would like to go</td>
</tr>
<tr>
<td>Higher authorities</td>
<td>Follow a ‘recommend route’ map</td>
</tr>
<tr>
<td><strong>Thresholds</strong> (of unsustainability)</td>
<td>Avoid turnoffs that clearly head in the wrong direction</td>
</tr>
<tr>
<td>Derived from <strong>SD principles</strong></td>
<td>Generally follow the correct compass bearing</td>
</tr>
<tr>
<td>Determined using ‘<strong>backcasting</strong>’</td>
<td>Determine the destination and find the best way of getting there</td>
</tr>
</tbody>
</table>
Strategic-ness: Scope

Features that determine the **scope** of an assessment:

<table>
<thead>
<tr>
<th>Features:</th>
<th>Narrow (Project-specific)</th>
<th>Broad (Strategic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boundaries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Spatial scale:</td>
<td>Site/ Local</td>
<td>Regional/ National/ Global</td>
</tr>
<tr>
<td>- Temporal scale:</td>
<td>Life of the project</td>
<td>Longer than project life</td>
</tr>
<tr>
<td><strong>Alternatives:</strong></td>
<td>Project alternatives (Design options)</td>
<td>Alternative projects</td>
</tr>
<tr>
<td><strong>Types of Impacts:</strong></td>
<td>Direct impacts</td>
<td>Residual Impacts Cumulative Impacts Induced/ Secondary/ Indirect Transboundary/ Global Impacts</td>
</tr>
<tr>
<td><strong>Risk and Uncertainty:</strong></td>
<td>Avoidance of risk and uncertainty</td>
<td>Accommodation of risk and uncertainty</td>
</tr>
</tbody>
</table>
Strategic-ness: Scope

Alternative Projects

- When **public or donor** money is involved and the primary motivation for projects is to satisfy societal needs then a top-down approach to project selection is – at least in theory – a logical approach.

- What about **private-sector** projects?

(Source: World Commission on Dams, 2000)
Strategic-ness
Tiering and private sector projects?
Strategic-ness

• To what extent can project-level assessments be strategic?
• Is tiering a realistic option for private sector projects?
SD-Directed Features *Within* the Assessment Process

- **Objectives-led/Strategic Assessment**
  - 'Traditional' EIA
  - All SD-related themes

- **Triple Bottom-Line' Assessment**
  - Bio-physical environment only
  - All SD-related themes

- **Integrated Assessment**

**Axes:**
- **SD/Broad**
- **Impact minimisation/Narrow**
- **'Traditional' EIA**
- **Bio-physical environment only**
- **All SD-related themes**

**Dimensions:**
- **Strategic-ness** of focus & scope
- **Comprehensiveness** of SD Coverage
- **Integrated-ness** of techniques & themes
Way Forward

• Evaluate recent ‘best practice’ mining projects determine the extent that SD-directed features are beginning to emerge in practice.

• Develop a ‘best practice’ SD-directed assessment framework for mining projects.