INTRODUCTION

The challenge of integrating and contextualizing the multiple capitals into a data ecosystem that triggers a green, inclusive & open economy

Ralph Thurm (Reporting 3.0)
Integration

... of the multiple capitals (natural, human, social, built, and financial) to optimize positive synergies (and mute / eradicate negative interaction) between and amongst them, to better support the creation of financial, societal (shared), and system value (to employ a recently coined term.) In Daly’s and Meadows’ terms, this integration links the “ultimate means” of natural capital through the intermediate means and ends of human, social, built, and financial capital, all the way through the “ultimate ends” of well-being.
Challenges

Contextualization

... of organization-level impacts on the multiple capitals within the carrying capacities of those capitals at the systems level, either a virtuous (regenerative) or vicious (degenerative) cycle. Context-Based Sustainability (an implementation mechanism of the Principle of Sustainability Context) calls for identifying thresholds separating sustainability from unsustainability, as well as assessing allocations of fair-share contributions to maintaining the overall sufficiency of vital capital resources and cycles.
Challenges

Activation

... of responses when the sustainability of any capitals – and hence the potential for biota well-being and human fulfillment – is placed at significant risk. Data without engagement is falls short of its potential; “activated” data fulfills its potential of driving the change signaled by integrated, contextualized data. The key to activation is evidence-based advocacy by context-driven stakeholders. And activated data also catalyzes “acceleration” to scale up change to trigger tipping points of systems change. Indeed, properly contextualized data signals the magnitude of unsustainability and the pace and scale of reform needed to achieve sustainability.
Making the connection to the new impetus
From Rockstrøm to Raworth
Disclosure with context embraces a seamless information flow from micro to meso to macro level and vice versa.
Introducing the Daly ‘Hourglass’

‘Our current monocapital, uncontextualized data architecture, wedded as it is to the status quo or to incrementalism at best, yields information shackled to the illusion of progress, thereby damning itself to always fall short of sustainability. So, a fit-to-purpose data / information systems architecture creates seamless data and information flows across 3 dimensions:

- Across the multiple capitals;
- Across the micro / meso / macro levels interlinking companies / industries & habitats / socio-ecological systems;
- Across value cycles.
## Example Crown Estate

<table>
<thead>
<tr>
<th>Financial Resources</th>
<th>The respective flows for financial resources are fully reflected and integrated e.g. profits generated and captured within Gross Value Added.</th>
</tr>
</thead>
</table>
| **Physical Resources** | - e.g. new development  
- e.g. building damage via workplace incident  
- e.g. building damage via flooding (natural)  
- e.g. additional functionality for existing building  
- e.g. new policy such as feed in tariff regime increasing the value of renewable energy installations  
- e.g. free use of space by community groups  
- e.g. use of public infrastructure without payment |
| **Natural Resources** | - e.g. additional forestry planting  
- e.g. mineral resource depletion through extraction  
- e.g. new policy restricting agricultural activity (political)  
- e.g. land management practice generating greater soil fertility  
- e.g. new policy creating additional functionality of seabed (political)  
- e.g. production of ecosystem services  
- e.g. greenhouse gases emitted |
| **Our People** | - e.g. employee well being programmes  
- e.g. sickness absence (social)  
- e.g. seasonal epidemic (social)  
- e.g. greater employee engagement  
- e.g. improved work-life balance (social)  
- e.g. employee volunteer schemes in working hours  
- e.g. under-compensated labour |
| **Our Know-how** | - e.g. employee training and development programmes  
- e.g. employee turnover  
- e.g. obsolescence of existing skill set through innovation (market)  
- e.g. learning by doing  
- e.g. new policy creating additional functionality for skills (political)  
- e.g. production of public information, i.e. knowledge sharing  
- e.g. consumption of public information |
| **Our Networks** | - e.g. community investment projects  
- e.g. late payment of suppliers  
- e.g. economic downturn straining relationships (market)  
- e.g. placing unemployed into employment  
- e.g. economic upturn strengthening relationships (market)  
- e.g. enhanced visitor well-being  
- e.g. reduced visitor well-being |
Example Multicapital Scorecard (Thomas & McElroy)

<table>
<thead>
<tr>
<th>VITAL CAPITALS</th>
<th>AREAS OF IMPACT</th>
<th>CAPITAL IMPACTS</th>
<th>PROGRESSION SCORE</th>
<th>WEIGHT</th>
<th>WEIGHTED SCORE (AxB)</th>
<th>FULLY SUSTAINABLE SCORE (Bx3)</th>
<th>GAP TO FULLY SUSTAINABLE (D-C)</th>
<th>AREA OF IMPACT (A+C) BOTTOM LINE (D-D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL</td>
<td>Product safety</td>
<td>▢</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Workplace safety</td>
<td>▢ ▢</td>
<td>-1</td>
<td>5</td>
<td>-5</td>
<td>15</td>
<td>20</td>
<td>-33%</td>
</tr>
<tr>
<td></td>
<td>Gender equity</td>
<td>▢</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>4</td>
<td>67%</td>
</tr>
<tr>
<td>ECONOMIC</td>
<td>Living wages</td>
<td>▢</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>Owners’ equity</td>
<td>▢</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>5</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>Borrowings</td>
<td>▢</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>ENVIRONMENTAL</td>
<td>Climate system</td>
<td>▢</td>
<td>-2</td>
<td>4</td>
<td>-8</td>
<td>12</td>
<td>16</td>
<td>66%</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>▢</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>3</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>Solid waste</td>
<td>▢</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>33%</td>
</tr>
</tbody>
</table>

**OVERALL PERFORMANCE**

|             | 44 | 102 | 58 | 43% |

Note: Areas of Impact shown here are purely illustrative and are always organisation-specific.
Appendix
The metamorphosis from triangle to hourglass