Improving corporate performance with final ecosystem services

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Abstract: The “final ecosystem services perspective” embodied by the Final Ecosystem Goods and Services Classification System (FEGS-CS) and the National Ecosystem Services Classification System (NESCS) can improve corporate decision making because it is arguably easier to use, improves materiality analysis and aids stakeholder engagement.

I. FROM GROUPINGS OF SERVICES TO AN EFFECTIVE SYSTEM

Despite Millennium Ecosystem Assessment (MA) authors’ caution against using the four groups of ecosystem services as a formal classification system, the MA typing (depicted in Figure 2) left of arrow was widely adopted (e.g. TEEB, TEEB, OECD, EIP, IFC PPR).

These categories overlap extensively, and the purpose is not to establish a taxonomy but rather to ensure that the analysis addresses the entire range of services.9

Ecosystem services can be differentiated into ecosystem processes and functions ("intermediate ecosystem services") and "final ecosystem services" (FES).6 This takes into account the steps needed to translate components of an ecosystem into a “service” that directly impacts well-being. For example, a fish to make it to market, a bowl of fish, a meal, and labor are needed in addition to a net and stock of fish. The fish depend on numerous environmental functions, from habitat quality to nutrient cycling.

MA-based classification systems consider multiple points along a production function continuum to become ecosystem services (Figure 1). FES, however, are defined at the point where the environmental service transitions from being pre-existentially productive to being a benefit provided as a result of the interaction with man-made capital. In this example, that transition point occurs when the fish is catchable by the fisher. The transition point is also determined by who is using the service. A farmer benefits from the soil, water and air on her farm, while tourists value that farm’s aesthetics. These principles: (1) focusing on the transition point and (2) noting the beneficiary of that transition point can be considered the “final ecosystem services perspective.”9 When applied to classification systems, as with the Final Ecosystem Goods and Services Classification System (FEGS-CS) and the National Ecosystem Services Classification System (NESCS), it helps to:

1. Eliminate double counting; see Figure 2.
2. Make more efficient analytical choices. Clearly stating the beneficiary, for example between “water for a farmer” versus “water for manufacturing” addresses practitioners to immediately consider the most appropriate ecological modeling and valuation techniques.
3. Improve stakeholder engagement. By defining FES as directly used or appreciated by humans, ecological contributions to welfare are more readily understood, providing an accessible common language among experts and non-experts from different disciplines.

II. APPLYING THE FES PERSPECTIVE

Table: Environmental production functions and classification systems

<table>
<thead>
<tr>
<th>MA Based Classification System</th>
<th>FES Based Classification System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil for crops</td>
<td>Non hired pollination</td>
</tr>
<tr>
<td>Pollination</td>
<td>Soil</td>
</tr>
<tr>
<td>Rainwater</td>
<td>Rainwater for tending</td>
</tr>
<tr>
<td>Pumped groundwater</td>
<td>Presence of farm for views by residents</td>
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</tbody>
</table>

Natural capital accounting could be reorganized into three groups. The first would use the mitigation hierarchy as a basis for defining and disclosing material impacts on species and ecosystems.6 The second group would report on benefits from FES. The third group would disclose the implications of natural capital impacts and dependencies on “ecosystem resilience,” capacity of an ecosystem to tolerate disturbances.6 Managers already do this with the FES of water, where the water’s resilience is akin to water stress.11

For example, a real estate firm could report how their assets are protected from natural disasters. A component of this protection would come from the resilience of the FES “regulation of extreme events” that reduces natural disaster impacts. However, data and modeling challenges will remain, calling for a measured transition to the FES perspective.

CERTIFICATION

Most product certification systems measure both intermediate and final ecosystem services without distinction.10 Generally, they refer to ecosystem services that are used by communities. However, FEGS-CS and NESCS would not classify many of these as FES. The FES approach standard would sharpen definitions within certification systems, providing clearer guidelines to farmers, for example, on what they need to do on their farm to increase community benefits.

For example, the ecosystem services of non-timber forest products (NTFPs), soil, water and cultural values would be simplified into the FES of NT-FPs, water purification and cultural values. Soil carbon (sequestration) would be classified as an ecosystem function related to soil management.

CONCLUSION

FES-based classification systems will likely prove easier to integrate into existing business processes than the alternatives. FEGS-CS and NESCS are less confusing than alternatives (Figure 3). For example, the FES perspective:

• Fits better into business processes – regulatory compliance processes can improve corporate decision making because it is arguably easier to use, improves materiality analysis and aids stakeholder engagement.

IMPROVING CORPORATE PERFORMANCE

There are challenges with FES. Any system must prove relevant to managers and a flexible approach is encouraged. This will allow learning to occur over time.13 Like other ES assessment tools and approaches, the FES perspective requires large quantities of quality data and complex ecological modeling that are yet to be developed.

The FES perspective embodied in FEGS-CS and NESCS likely provides corporate managers an improved system for mainstreaming ecosystem services into decision making. One, it helps reduce overkill of ecological and economic production functions in analysis. Second, it identifies beneficiaries earlier in analysis, emphasizing the value to humans of benefits from the environment.

However, data and modeling challenges will remain, calling for a measured transition to the FES perspective.

REFERENCES


