COMMODITY IMPACT INDICATORS FOR BIODIVERSITY: LEARNING FROM RECENT EXPERIENCE WITH STANDARDS & CERTIFICATION SYSTEMS

Jeffrey Milder, Rainforest Alliance
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THE ANATOMY OF STANDARDS AND CERTIFICATION

STANDARD-SETTING (e.g., principles, criteria, and indicators)

TRAINING (e.g., producer & enterprise training and support)

ASSURANCE (e.g., verification / certification, traceability)

CLAIMS (e.g., eco-labels, B2B designations or differentiation)
VOLUNTARY STANDARDS AND THEIR KIN

3RD PARTY

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ROUNDTABLES / MSIs

1st PARTY (company)

SECTOR INITIATIVES

Gov’t?

Global Commodity Impact Indicators?
"Meta-questions" for evaluation and continuous improvement:

- Do standards systems protect biodiversity and deliver other social and environmental public goods?
- Do standards systems benefit producers, companies, and other value chain actors?
- How could standards systems be adapted and improved to increase benefits to public and private actors, biodiversity conservation at full scale?

**3rd Party**

ROUNDTABLES / MSIs

**1st Party**

(company)

**Sector Initiatives**

**Gov’t?**

Global Commodity Impact Indicators?
HOW FAR ALONG ARE WE?

No longer true!

“[the empirical evidence base provides] at best ... very weak evidence for the hypothesis that ‘sustainable’ certification has positive socioeconomic or environmental impacts”

## 1. BETTER, MORE RAPID BENCHMARKING

### Table 3.9: Average Coverage of SSI Environmental Indices for Each Voluntary Sustainability Initiative.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Soil</th>
<th>Waste</th>
<th>Synthetic Inputs</th>
<th>Water</th>
<th>Biodiversity</th>
<th>GMO Prohibition</th>
<th>Greenhouse Gas</th>
<th>Energy</th>
<th>Total Average</th>
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<tbody>
<tr>
<td>IFOAM</td>
<td>100%</td>
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<td>100%</td>
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<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
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<td>60%</td>
<td>70%</td>
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<td>4C Association</td>
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<td>53%</td>
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<td>33%</td>
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<td>20%</td>
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<td>20%</td>
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<td>20%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>28%</td>
</tr>
</tbody>
</table>

2. SYSTEM-WIDE MONITORING OF BASIC INFORMATION
3. DEVELOPMENT OF COMMON INDICATORS & COMMON REPORTING

Towards a Shared Approach for Smallholder Performance Measurement:

Common indicators and metrics

Demonstrating and Improving Poverty Impacts:

Common core indicators

<table>
<thead>
<tr>
<th>Guiding questions</th>
<th>Indicator metric</th>
<th>Source of data</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource management: Are resources well managed? Is management of natural resources improving?</td>
<td>Hectares in conservation management areas or set-asides (indicator still in development)</td>
<td>Certified entity/group member</td>
<td>1 (if through compliance system); 2</td>
</tr>
<tr>
<td></td>
<td>Tree cover density and diversity (indicator still in development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Observed erosion rating or Erosion risk level (indicator still in development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waste management (indicator still in development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Efficiency of water use (indicator still in development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduction in use of highly hazardous substances (indicator still in development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Efficiency of fertilizer use (indicator still in development)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production:</td>
<td>Rough estimate of yield (in kg per hectare) at certificate holder level over last calendar year – using production estimates and reported cultivation area</td>
<td>Calculation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Reported yield (in kg per hectare) at certified entity level over last calendar year – using reported actual production and reported cultivation area</td>
<td>Calculation</td>
<td>1 (IGS) or 2</td>
</tr>
<tr>
<td></td>
<td>Verified yield (in kg per hectare) at certified entity level over last calendar year – using verified production and measured cultivation area</td>
<td>Calculation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Per cent of total production covered by standard rejected by buyers for defects or poor quality</td>
<td>Certificate holder</td>
<td>1</td>
</tr>
</tbody>
</table>
4. SYSTEMATICALLY TRACKING PRACTICE ADOPTION AT FINE SPATIAL & TEMPORAL SCALE

Rainforest Alliance Certified tea farms in Malawi, Rwanda, and Tanzania

5. GROWING QUANTITY, RIGOR, AND RELEVANCE OF IMPACT STUDIES

Macroinvertebrate, stream integrity and water quality characteristics: RA-certified vs. noncertified coffee farms in Colombia

<table>
<thead>
<tr>
<th>Variable</th>
<th>Units</th>
<th>Water Quality</th>
<th>Certified Average</th>
<th>Noncert. Average</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVAP</td>
<td>index</td>
<td>↑</td>
<td>8.8*</td>
<td>6.56*</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Vegetation cover</td>
<td>%</td>
<td>↑</td>
<td>74.00*</td>
<td>57.08*</td>
<td>0.011</td>
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<tr>
<td>BMWP</td>
<td>index</td>
<td>↑</td>
<td>118.46*</td>
<td>71.73*</td>
<td>&lt; 0.001</td>
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<tr>
<td>EPT</td>
<td># species</td>
<td>↑</td>
<td>6.12*</td>
<td>4.34*</td>
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<tr>
<td>ELPT</td>
<td># species</td>
<td>↑</td>
<td>6.23*</td>
<td>3.76*</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Productivity, gross revenue, and net revenue: cocoa farms in Côte d’Ivoire

Sources:
Côte d’Ivoire: Committee on Sustainability Assessment. 2012. COSA survey of Rainforest Alliance certified farms.
6. BEGINNING TO CONSIDER LANDSCAPE & WATERSHED LEVEL EFFECTS

- RA-certified coffee farms in Santander, Colombia, increased levels of tree cover significantly more than non-certified farms; patterns detectible from satellite at landscape scale (Rueda et al. 2014)

- In Ethiopia, natural forests with RA-certified coffee were less likely to be deforested than forests without forest coffee or with non-certified coffee (Takahashi & Todo 2013).

Over a 20-year period, FSC certified forest units experienced substantially lower rates of deforestation than nearby gazetted protected areas.

PROGRESS
• Better basic monitoring – who, where, what
• Consensus on best practice in evaluation research, and a growing number of studies
• Incipient collaboration toward sector-wide monitoring and reporting
• Strong demand and interest for results data

GAPS
• Data consistency, quality, and accessibility are still works in progress
• Evaluation research is still spread very thin – difficult to generalize
• Collaboration based on goodwill; few mechanisms or systems to support it
• Research and practice are weakly linked
An Agenda for Assessing and Improving Conservation Impacts of Sustainability Standards in Tropical Agriculture

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††††Roundtable on Sustainable Palm Oil, Kuala Lumpur, Malaysia.
+++Round Table on Responsible Soy Association, Florianopolis, Brazil
§§§International Forestry Resources and Institutions Research Network, School of Natural Resources and Environment, University of Michigan, 440 Church Street, Ann Arbor, MI 48109, U.S.A.
****Department of Zoology, University of Cambridge, Cambridge, CB2 3EJ, United Kingdom
†††††Rainforest Alliance, Lombardi 34, 67041T, Wageningen, The Netherlands
++++Conservation International, 1111 Crystal Drive, Suite 500, Arlington, VA, 22202, U.S.A.
§§§§UTZ Certified, De Ruyterkade 6, 1013AA, Amsterdam, The Netherlands
*****Zoological Society of London, Regent’s Park, Outer Circle, London, NW1 4RY, United Kingdom
MONITORING APPROACH REFLECTS WELL-DEFINED INTERVENTIONS & IMPACT HYPOTHESES

DEMAND for sustainably produced tropical agricultural commodities
Motivated by consumers, companies, civil society, and governments

INTERVENTION: activities to implement sustainability standards, including:
- Standard setting
- Market engagement to involve key supply chain actors
- Training and support to encourage and enable uptake at the field level

RESULTS

DIRECT
Farms adhere to spatial planning, ecosystem set-aside, and mitigation requirements for farm siting and planning as specified by sustainability standards

INTERMEDIATE
1a. Natural ecosystems conserved on certified farms
1b. Natural ecosystems and their connectivity conserved across key landscapes and regions
2a. Conservation value improved on certified farms
2b. Conservation value improved across landscapes due to aggregation of on-farm values on proximate sets of certified farms
3a. Pollution and other off-site negative impacts reduced from certified farms
3b. Negative ecological impacts of agriculture reduced across landscapes and watersheds due to aggregation of lower-impact certified farming

BROADER

More direct; manifest over smaller spatial & temporal scales

Less direct; manifest over larger spatial & temporal scales

A Hierarchical System for Evaluating Conservation Impacts of Sustainability Standards

**LEVEL 1**
- System-wide monitoring
- Features (scope & characteristics)
- Breadth
- Replication across space and time
- Verification & calibration of level 1 & 2 monitoring
- Depth

**LEVEL 2**
- Sampled monitoring
- Adoption of sustainable practices
- Intermediate conservation outcomes
- Broader conservation outcomes and impacts

**LEVEL 3**
- Focused research

Focus (types of results measured)
INDICATORS ARE FEASIBLE & MEANINGFUL ...

... TO THE RIGHT PEOPLE

Feasible to measure at scale

Relevant to private business

Relevant to gov’t or civil society guardians of public goods (social, env’t, economic development)
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ADAPTATION OF STANDARDS

AN AGENDA TO MAKE IT HAPPEN

• Advance progress on common indicators & reporting
• Promote full implementation of system-wide monitoring

• Develop common metrics to enhance data comparability
• Establish regional monitoring efforts to track commodity impacts relative to specific issues or threats

• Research platform for co-building evidence base
• Data sharing mechanism
THANK YOU