

2005 Environmental Sustainability Index

Benchmarking National Environmental Stewardship

Appendix H Critiques and Responses

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Appendix H – Critiques and Responses

Earlier versions of the ESI received widespread media attention, favorable reviews in the academic literature (see Appendix I) and positive reception by many countries. As with any novel approach to a complex set of issues, it has also been subject to criticism. In this Appendix, we discuss the core critiques of the previous ESI releases that are especially pertinent to the 2005 edition.

Critique:

The ESI underemphasizes certain critical aspects of environmental sustainability, such as climate change, and the equal weighting of the ESI is arbitrary and/or inappropriate.

Response:

The ESI refrains from placing high weights on a small number of factors because we think the environmental sustainability agenda is appropriately broad, and we wish our index to be faithful to that agenda. It would be irresponsible to try to reduce a measurement of environmental responsibility to a small handful of metrics. The word “environment” refers to a wide range of issues including air and water pollution, waste management, toxic exposures, as well as range of natural resource management issues. We recognize that the equal weighting across the 21 indicators of the ESI is somewhat arbitrary. However, as discussed in Appendix A, neither expert evaluation nor statistical analysis produced divergent weights. We therefore do not see any viable alternative to equal weighting. And we note that virtually all efforts to aggregate indicators of this sort end up assigning equal weights.

Putting special emphasis on climate would suit the political agendas of some countries and some environmental NGOs. But it would not reflect the balance of environmental issues that countries across the world must address. Issues related to climate change are found in seven ESI variables, driving, in part, five different indicators. We think this is a bal-

anced and appropriate level of focus on climate change.

Critique:

It is difficult to determine the implicit weights behind different areas of policy interest, such as climate change or biodiversity.

Response:

This critique is similar to the one above. As mentioned in Chapter 2, the ESI is based upon an unweighted average of the 21 indicators. This means that individual variable weights vary in their contribution to the overall ESI score in proportion to the number of variables in a given indicator – from a 2% contribution to the ESI score for indicators with only two variables to a 0.3% contribution for the Environmental Governance indicator with 12 variables. Given that all variables are conceptually related to the indicator in which they are placed (and indeed many variables represent different ways of measuring the same thing), we do not feel the implicit weights are a problem. Yet, we also recognize the value of having a fuller picture of the implicit weights of different issues of concern – such as air quality or biodiversity conservation. Thus, as a partial response to this critique, we offer here a table of the implicit weights of different policy realms included in the ESI based on an aggregation of the implicit weight of individual variables.

Table H.1: Relative Weights Given to Environmental Sectoral Issues

Policy realms	Percent weight
Human Health Related	34.9
Water Related	18.3
Climate Change Related	17.3
Land Related	16.6
Air Pollution Related	11.9
Biodiversity Related	10.5
Energy Related	9.8
Toxics/Waste Related	4.9

(Issue areas overlap so percents do not add up to 100)

This is an approximate estimate of the relative weight apportioned to different issues based on a coding of variables by issue. Generic governance or science and technology variables were generally not attributed to any sector. Human health has a high weight in part because of the many variables that are relevant to human health and wellbeing.

Critique:

Environmental sustainability cannot be summarized in a single index. The index combines too many disparate elements in one thus rendering it meaningless.

Response:

There has been an undue focus on the aggregate ESI scores, which we consider to be indicative and not definitive. The rankings are only indicative of a country's relative place on a sustainability ladder built from the ESI variables and indicators. We have always sought to emphasize the indicators, and we have provided country profiles that clearly compare each country's performance relative to its income peer group for each of the 21 indicators. That said, if a country is performing well on all or most of the 21 indicators, it will yield a higher ESI score, reflecting its high performance on the component parts.

Critique:

Many countries that score highly on the ESI, such as the Nordic countries, have per capita levels of natural resource use beyond what the biosphere can sustain indefinitely (Wackernagel 2001).

Response:

While there may be an element of truth in this critique, we would argue just as strongly that a country with very low levels of consumption yet with high levels of under-five mortality due to poor air and water quality, lax environmental regulations, corruption and absence of civil and political liberties, is also environmentally unsustainable. There is a general predisposition in the environmental community (particularly in the developed world) to view environmental outcomes that are harmful to human health as somehow less important

that aggregate consumption impacts on the global commons. The fact remains that if the local atmosphere and water bodies are heavily polluted, a country can hardly be deemed to be on the path to environmental sustainability. As noted above, the environmental literature ranges across many issues – and the ESI tries to capture this full range of policy challenges.

Environmental policymakers are furthermore expected to address a broad array of pollution control and natural resource management issues. An ESI that focused solely on resource depletion rates would be much less useful in this context. Finally, resource depletion projections are notoriously unreliable and inattentive to the dynamic world in which we live.

Critique:

Other indicators such as the Ecological Footprint do a better job of measuring what really matters – the impact of human resource consumption on the environment and the ability of human activity to be sustained in the biosphere.

Response:

We support all indicator initiatives, and expect that the policy community will naturally migrate to those they find most useful. We see a value in measuring consumption or natural resources. Indeed, we include the Ecological Footprint as a measure of consumption pressure within the ESI. But we are convinced that reducing environmental sustainability to a uni-dimensional measure of the hectares of biologically productive land needed to support an economy is inadequate. Sustainability is inescapably a multi-faceted concept that must encompass a range of ecological and environmental public health values.

Critique:

The ESI downplays or ignores transboundary or spillover effects of northern country's unsustainable consumption. It is designed to make dirty countries look clean (Morse and Fraser forthcoming).

Response:

The ESI has always included measures that assess a country's transboundary impacts. In 2001, we included an indicator on "protecting international commons" that included measures such as current CO₂ emissions, historical cumulative CO₂ emissions, CFC consumption and the ecological footprint deficit. In 2002 we created a separate greenhouse gas emissions indicator and retained an indicator for transboundary environmental pressures, but added variables that measured SO₂ exports and impacts on marine fisheries. In this ESI, we have added a variable to account for another dimension of cross-border effects on the environment – the import of polluting goods and raw materials as percentage of total imports of goods and services (or conversely, the export of polluting industries to other countries). It is true that the ESI puts greater weight on a country's efforts to enhance sustainability within its own borders, but it can hardly be said that we have ignored transboundary impacts.

Critique:

The ESI gives undue weight to intentions versus actual performance.

Response:

We acknowledge that active participation in multilateral environmental agreements or funding mechanisms is no substitute for on-the-ground environmental protection. In fact, in 2002 we produced an Environmental Performance Index that, for 22 OECD nations with richer environmental data, ranked countries according to performance and recent trends on air and water quality, protection of land resources, and climate change. Nevertheless, it is our perception that intentions do matter, and that becoming a party and providing regular reports to environmental conventions is a reflection of a government's commitment to address important issues such as biodiversity loss and climate change.

Critique:

The ESI has been criticized for the lack of a causal model linked to an observable outcome.

Response:

Environmental sustainability is defined as the ability to maintain valued environmental assets over the next several decades and to manage problems that emerge from changing environmental conditions. Because the concept includes the future as well as the past and the present, we are hampered in creating a causal model linked to observable outcomes. In addition, environmental sustainability encompasses too many issues and is too broad in scope to permit a realistic causal model.

Economic growth models, in contrast, focus on a fairly narrow measure of economic output, such as changes in Gross Domestic Product (GDP). It is the extremely narrow formulation of the outcome that permits such inputs to be aggregated with precision. While similar precision cannot be achieved in the realm of environmental sustainability, it does not negate the need for attention to the range of issues in pollution control and natural resource management. The ESI and its underlying indicators offer a valid if approximate gauge of the diverse and growing environmental stewardship concerns.

Critique:

Measuring relative performance is meaningless if all countries are essentially on unsustainable trajectories.

Response:

It is true that no country appears to be on a truly sustainable path. But relative performance is nevertheless an important thing to measure. The Ecosystem Wellbeing Index sought to create absolute performance benchmarks, yet the benchmarks were largely arbitrary and had slim empirical underpinnings. Policy context is what matters to policy makers. Seeing what others have achieved is critical to understanding what is possible. Determining the leaders is essential if one is to identify "best practices." Decades of production of the Human Development Index show that developing country leaders genuinely care about their ranking. Laggards are powerfully motivated by their poor rankings (Esty 2002). Our interactions with a number of countries

show that some are making efforts to improve performance on ESI indicators in an effort to raise overall ESI scores. We see no evidence that policy makers are making the same effort to reduce their country's ecological footprints or increase their wellbeing indices.

Critique:

The ESI has an inherently "northern" bias. It favors developed countries by including too many measures of capacity and favoring technological innovation over indigenous or local knowledge.

Response:

The ESI attempts to measure in a balanced way both the environmental challenges of

development and those of underdevelopment. The ESI team has consistently sought the views and welcomed the critiques of southern colleagues as well as those who claim to represent the global South. Furthermore, if the ESI does have such a bias, it is certainly not evident in developing country performance, since 11 of the top 20 countries in the 2002 ESI were developing or transitional economies. The reality is that many measures that one might wish to include are simply not available. There are no internationally comparative data sets that measure indigenous knowledge.

References

Esty, Daniel C. (2002). "Why Measurement Matters." *Environmental Performance Measurement: The Global 2001-2002 Report* (D.C. Esty and P. Cornelius, ed.). New York: Oxford University Press.

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Wackernagel, Mathis. 2001. Shortcomings of the Environmental Sustainability Index. Personal Communication.