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Environmental Indicators

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by Laura Jones,
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Introduction

The importance of publishing environmental indicators to track pollution trends and to evaluate our success or failure at improving environmental conditions is obvious. Without such objective evaluations, we are left simply to form opinions based on anecdotal information. A number of regularly tracked indicators such as the unemployment rate, GDP growth, and the inflation rate keep us informed about the health of the economy. Imagine how inaccurate our perceptions might be without these indicators. Every time a neighbor is laid off, we might be tempted to conclude the country is in a recession. Every hard-luck news story would confirm our suspicion. Yet, this is how many of us form our environmental opinions. A smoggy day in the summer that gets television coverage? Air quality must be deteriorating. A winter that is warmer than usual? Must be global warming. A dead whale on the beach? Must be polluted water.

Relying on the Media for our environmental opinions

Not surprisingly, reports from the Media help form many of our opinions on environmental issues. In a recent poll of university students, for instance, 76% of students claimed to get most of their knowledge about environmental topics from the Media (Jones 2001: 22). Relying on the Media for environmental information is natural since most of us do not have time to conduct our own pollution investigations. But, in the absence of regularly reported environmental indicators to give us an overall perspective on environmental trends, this heavy reliance on Media almost surely makes us overly pessimistic about the state of the environment due to one simple reality: bad news is a good story.

Gregg Easterbrook, a reporter who has covered environmental issues for *Newsweek*, *The New Republic*, and *The New York Times Magazine* explains how he discovered the asymmetry in the way in which the Media cover environmental stories.

> In the autumn of 1992, I was struck by this headline in the *New York Times*: "Air Found Cleaner in US Cities." The accompanying story said that in the past five years air quality had improved sufficiently that nearly half the cities once violating federal smog standards no longer did so. I was also struck by how the *Times* treated the article—as a small box buried on page A24. I checked the nation's other important news organizations and learned that none had given the finding prominence. Surely any news that air quality was in decline would have received front-page attention. (Easterbrook 1995: xiii).

A recent Canadian study supports Easterbrook's observation. In 2000, 89% of the *Globe and Mail*'s air-quality coverage and 81% of the *National Post*'s coverage focused on stories of poor air quality (Miljan 2001: 17–18). That bad news is a good story is a more generally observable phenomenon. According to the Pew Research Center for the People and the Press, the top 10 stories of public interest in the United States during 1999 were all bad news stories. With the exception of the outcome of elections, the birth of septuplets in Iowa, and the summer Olympics, the same is true for the top ten stories in each year from 1996 through 1998 (Pew Research Center 2000).

That bad news is a better story than good is not surprising. Good news often is not extraordinary enough, entertaining enough, or shocking enough to be news. A plane crash is newsworthy, a million safe landings is not. A smog warning is newsworthy, 348 smog-free days is not. If the millions of safe landings or the smog-free days were mentioned as background information to the "news" of the crash or smog episode, we could at least put the news in its proper perspective. Unfortunately, such perspective is rarely presented.

Relying on activists for our environmental information

Have you ever wondered why you never hear environmental activists brag about the tremendous reduction in pollution that has occurred in developed countries since the first Earth Day in 1970? There are at least two reasonable explanations for this. First, good environmental news for wealthy countries is not consistent with the world view of many environmentalists. Many environmentalists blame capitalism for environmental degradation, firmly believe there is a trade-off between economic growth and environmental quality, and expect rich, market-based economies that experience economic growth to be among the worst polluted in the world. The comments of long-term Greenpeace activist, Michael M'Gonigle, represent this view: "the market—the very nature of the free market—is inherently anti-environmental" (quoted in Dale 1996: 51–52). In fact, many activists became activists in the first place because they felt that the lifestyle in countries like the United States and Canada was ecologically unsustainable.

There is plenty of evidence to suggest that this world view is wrong. Economic progress is not the enemy of environmental progress but its ally. Rising incomes not only increase the demand for goods and services such as cars, refrigerators, and haircuts, but they also fuel the demand for environmental amenities. This demand gets expressed in a variety of ways, including support for stricter environmental laws, demand for cleaner products, and an increased willingness to donate money to conservation groups. As a result, studies find that once a country reaches a per-capita income of around US$8,000, most indicators of pollution have already begun to fall (Grossman and Krueger 1995: 370). According to research by the World Bank, some indicators of environmental quality, such as access to safe drinking water and access to sanitation, improve immediately as incomes increase (World Development Report 1992: 10–11). While these studies make the conventional view that more production leads to more pollution look out-dated, the idea still has a lot of currency since it has been an important belief of the environmental establishment for over 30 years.

The second reason that environmentalists might choose to ignore good news is more pragmatic: their fund-raising initiatives might suffer. Since people will give to crisis causes, activist environmentalists must continue to search out and publicize bad news. To put it more bluntly: there is nothing like an environmental catastrophe (real or imagined) to raise dough for environmental organizations. Future predictions of crisis are convenient in this regard as the news does not have to be bad today. Since no one really knows what the future has in store, gloomy predictions are also harder to challenge than claims of current or past environmental degradation.

Our heavy reliance on the Media for environmental information leads us to rely more than we might think on environmental activists for environmental information. Activists seek out Media attention to raise awareness about their causes. The Media often cover reports and statements by activists who are peddling pessimism because this makes a good story.

How to be a smarter environmentalist

Many of us are less critical of environmental activists than we should be. It is not uncommon to hear the following argument from otherwise sensible people: "So what if some environmental organizations focus on bad news and are more pessimistic than the evidence warrants? Isn't it better to emphasize bad environmental news so people will continue to pay attention to environmental concerns? Wouldn't the worst thing be for people to become complacent?" This argument may explain why increasingly outrageous and unsubstantiated claims made about the condition of the environment go largely unchallenged. In fact, the belief that human activity is dooming the planet has practically come to epitomize what it means to be an environmentalist.

To be a smarter environmentalist, however, is to understand the basic economic principle that life is full of trade-offs. Resources spent to remedy one environmental problem are not available to address other, potentially more serious, problems. Given this reality, the most effective way to continue to achieve environmental improvement is to focus on the most serious remaining problems. This, however, is impossible if we are alarmist about *all* environmental issues. The second danger in alarmism is that eventually, like the boy who cried wolf too many times, you will no longer be heeded.

Many in the modern environmental movement have been crying wolf since the early 1970s. In 1972, *The Limits to Growth* was published by the Club of Rome, a private international association of about 75 businessmen,

scientists, and scholars. The influential study made numerous incorrect predictions, including that the world would run out of gold by 1981, mercury by 1985, tin by 1987, zinc by 1990, petroleum by 1992, and copper, lead, and natural gas by 1993. Paul Ehrlich's 1968 best-seller, *The Population Bomb*, predicted crop failures and mass starvation for the world. He writes: "The battle to feed all of humanity is over. In the 1970s the world will undergo famines—hundreds of millions of people are going to starve to death in spite of any crash programs embarked upon now" (36–37). In yet another example of failed prophesy, in 1979 Norman Myers published the popular book, *The Sinking Ark*, which forecast the extinction of thousands of species during the 1980s.

Not one of these predictions turned out to be true. But, that has not stopped crisis peddlers from predicting yet more environmental disasters. Well-known Canadian environmentalist David Suzuki and his co-author Anita Gordon, in their book, *It's a Matter of Survival*, describe the consequences of their belief that humans are causing global warming. They predict that by 2040 forests will disappear, fisheries will be affected, and there will be widespread starvation as agricultural productivity declines. They also predict that by the year 2040, as a result of global warming that will cause people to migrate to Canada. Toronto, Vancouver, and Montreal will have

> populations of well over 10 million each, the majority living in shanty-town slums on the outskirts or in decayed inner-city cores. But in addition there [will be] refugee tent cities in various parts of the country, and an estimated two million or three million people [will be] roaming the country, searching for food and shelter (Gordon and Suzuki 1990: 21).

Why do we continue to believe that these groups are a credible source of information about the environment?

What makes a good environmental indicator?

The ongoing appeal of activist environmental groups makes one thing clear: we have not yet satisfied our strong demand for more environmental improvement. But, as this report will show, we have witnessed some dramatic improvements in the last 30 years. How do we continue making these impressive gains? First, we must acknowledge them. Given that resources to address environmental concerns are limited, it makes sense to focus our attention on the most serious problems rather than those that have largely been solved. This is impossible if everything is considered a crisis. To determine which problems are most serious and which pollutants are increasing, we need environmental indicators.

What makes a good environmental indicator? A good indicator should provide a direct measure of pollution and of environmental degradation or improvement. It should be tracked over time in order to determine whether there is an improving or deteriorating trend. Good indicators should measure pollution, not consumption, although the two are commonly confused. The discussion of automobiles in a recent report released by the Commission for Environmental Cooperation (CEC), a joint government committee set up under NAFTA, illustrates the problem. The CEC considers facts such as "Nearly 90% of US and Canadian households, and more than 30% of Mexican households, own automobiles" worthy of highlighting in their press release. Is car ownership a sensible environmental indicator? No. Despite the increase in cars in Canada and the United States, air quality has improved dramatically over the past 30 years—partly because cars are much cleaner today. In fact, more cars on the road may indicate improved economic conditions, which, in turn, could be a sign that environmental quality is improving.

An earlier report, *Canada vs. The OECD: An Environmental Comparison*, makes the same mistake. The author chastises Canadians for their high vehicle ownership per capita and rates us 25th of 29 OECD nations in this category. The winners in this category? Turkey and Mexico, countries with low car ownership per capita but whose air quality is far worse than Canada's. Even the biannual *OECD Environmental Indicators* report makes the same mistake and includes among its indicators road traffic volumes and passenger cars in use.

In this report

This report brings together available data concerning environmental trends in five main categories: air quality, water quality, natural resources, land use and condition, and solid wastes. Each of these sections contains trend data and a general discussion. In some cases, the discussion points to the need for more data. Five other categories including carbon-dioxide emissions, oil spills, pesticides, toxic releases, and wildlife are also considered under the

"secondary" indicators heading. For these topics, less conclusive data are available. In some cases, such as carbon-dioxide emissions, it is unclear whether the indicator contributes to an environmental problem. In other cases, wildlife, for example, available data make it difficult to draw reliable conclusions. In the final section of the report, the trend in environmental performance for the primary environmental indicators is compiled into an index. In the index, data for the United States, Mexico, the United Kingdom, and South Korea are also available. These data were put together in conjunction with the Pacific Research Institute for Public Policy in San Francisco, the Institute of Economic Affairs in England, and the Center for Free Enterprise in South Korea.

This report finds that, contrary to public opinion, there are many reasons to be optimistic about the progress that has been made at improving our environment. While this report also shows that not all indicators show improvement, many impressive gains have been made since the first Earth Day in 1970. Following are some examples:

- Overall, environmental quality improved by 17% in Canada relative to 1980.
- The ambient level of sulphur dioxide decreased by 61.4% in Canada between 1974 and 1999. Many cities experienced similar reductions including Toronto (–66%), Montreal (–77%), and Vancouver (–67%). Every city now meets the strictest annual health standard for sulphur dioxide.
- The annual mean nitrogen dioxide level fell by 28% between 1974 and 1999. Many cities also experienced declines including Toronto (–12%), Vancouver (–23.3%), Ottawa-Hull (–40%), Calgary (–25.8%), Quebec (–40%), Winnipeg (–6.2%), Hamilton (–49.8%), and St. John's (–53%). While some other cities experienced increases, every city we looked at met the strictest annual health standard.
- Between 1974 and 1999 annual ambient levels of carbon monoxide declined by 76%. Most cities experienced declines and every city met the strictest available health standards.
- Ambient lead concentrations fell by 94% in Canada between 1974 and 1998.
- The percentage of the municipal population with wastewater treatment increased from 73% in 1983 to 97% in 1999.
- DDE concentrations in birds' eggs have fallen 86% in Lake Ontario, 89% in Lake Erie, 85% in Lake Michigan, 91% in Lake Superior and 93% in Lake Huron relative to their levels in the mid 1970s.
- Phosphorous loadings decreased by 67% in Lake Erie between 1967 and 1995. Phosphorous loadings decreased by 65% in Lake Michigan from 1974 to 1995.
- DDE concentrations in bird eggs in the Bay of Fundy decreased by 91% between 1972 and 1996. The amount of PCBs found in the bird eggs decreased by 77.8%.
- In the St. Lawrence Estuary, concentrations of DDE in the eggs of double-breasted Cormorants decreased by 89.9% between 1972 and 1996.
- The amount of land set aside for parks, wilderness, and wildlife has increased in Canada by 147% since 1970.
- Waste disposed per capita has declined by 5.4% in Canada between 1994 and 1998. In Nova Scotia, the decline was 28.9%; in British Columbia, 19.7%.
- Forest harvests have remained below the Allowable Annual Cut (AAC) between 1970 and 1998.

Data for this report

Data used in this report comes from the Environmental Data compendium 1999 of the Organisation for Economic Cooperation and Development (OECD). Where OECD survey results were unavailable, data were supplemented by information from the Environmental Protection Agency (EPA), Environment Canada, or other official government sources.