

Why We Are Destroying Wealth Faster than We Can Create It



Dr. Mathis Wackernagel, 48, is the founder and President of the Global Footprint Network think tank, which is based in Oakland, California, and has offices in Geneva and Brussels. While writing his dissertation, he developed the idea of the “ecological footprint” together with his thesis advisor, Professor William E. Rees. Wackernagel received an honorary doctorate from the University of Bern in 2007 and has been a visiting professor at Cornell University in Ithaca, New York, since 2011. Honors he has received include the Skoll Award for Social Entrepreneurship (2007) and the Zayed International Prize for the Environment (2011).

What is an Ecological Footprint?

Wackernagel: The Ecological Footprint is an accounting tool for tracking demands on nature. It measures the amount of land and water a person, city, country, or all of humanity uses to provide for their consumption. We compare this Footprint value with existing biocapacity — in other words, with the global or regional “farm” consisting of crop land, fisheries, grassland, and forests. The results show that we’ve been living beyond our means, so to speak, since around the mid-1970s. Although technological advances have increased biocapacity, this expansion has been much slower than the rise in human demand for resources. We estimate that we’re now using nature 50 percent faster than nature can regenerate. Today there are 1.8 hectares of biologically productive land for every human being on the planet, but each one of us currently uses 2.7 global hectares on average.

You’ve said an American uses 8.0, an Indian citizen 0.9, and a Chinese citizen 2.2 hectares. What do these numbers mean?

Wackernagel: If everyone on the planet had the same consumption habits as Americans, we would need more than four Earths. You can do the math yourself: 8.0 global hectares of Footprint divided by 1.8 hectares of global biocapacity. Even if we all consumed like the Chinese, the Earth wouldn’t be big enough to sustain that Footprint. Indians face a dilemma because they need relatively little, but their country has only half the biocapacity they use.

Besides, how much biocapacity do we want to leave for all the wild plant and animal species on our planet?

What’s your method for the calculations?

Wackernagel: It’s simple. Let’s say George Clooney’s coffee comes from Guatemala, the wheat to feed the chickens he eats is from Iowa, and the cotton for his clothes comes from New Zealand. He uses bits and pieces of nature all over the world. To measure his Footprint, we need to answer these questions:

- How big are the fields for growing the coffee beans, cotton, and grains George Clooney consumes? The grains include his bread and the feed for the chickens he eats.
- How much forest does it take to sequester the carbon dioxide emissions from heating and cooling his houses, his cars, etc.?
- How much land does his house occupy and what’s his share of land in streets and parks? We convert all the figures into global hectares and add them up — and there’s George Clooney’s Footprint!

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What do you mean by “global hectares”?

Wackernagel: Each hectare is different. Just consider the difference between a sparse taiga and highly productive farmland. To make comparisons, we need to convert a given hectare into a hectare with the same productivity value. It’s like a currency conversion, and in this case our currency is the “global hectare.” It’s the equivalent of one biologically productive hectare with world average productivity.

What are the strengths of this concept?

Wackernagel: It’s easy to imagine farms and forests. You can see them, feel them, and smell them. Discussions of sustainability are absurd if you don’t ask, “How much nature do we have, and how much do we use?” Too many discussions take place in a vacuum or as if there were no physical constraints. We measure these constraints using about 6,000 data points per year and country that we obtain from UN statistical offices. This allows us to produce a detailed balance sheet.

And what are its weaknesses?

Wackernagel: Of course they can be improved, but our accounting methods have

been tested by more than 12 governments. Our results were confirmed and are reproducible. Naturally, the Footprint — like Gross Domestic Product (GDP) — is not completely precise. But if countries applied it as seriously as they apply GDP, we could refine the calculations somewhat. There are supposedly 7,000 people working on GDP calculations in France. Our organization has only eight researchers for 200 countries. The Footprint measures just one aspect and needs to be complemented by other measurement parameters, such as health, people’s satisfaction scales, and the economic dimensions of sustainability, such as debt and inflation.

What does it mean when people say we now need 1.5 Earths?

Wackernagel: Let’s take the most moderate forecasts from the UN, which predict slow population growth, major production gains in agriculture, and significant decarbonization. Even if this scenario could be achieved, we’d still need over two Earths by 2030. It’s unrealistic to think we can keep overdrawing our “Earth account” by so much for so long. If we do, the Earth will become overtaxed, and biocapacity will be significantly reduced. Climate change is only one issue here; there’s also deforestation, water shortages, and the loss of arable land. The result could ultimately end up being food scarcity, energy insecurity, and instability. Life would go on, of course, as it does in Haiti and Somalia today. But don’t we want to live comfortably?

Are there solutions to this dilemma?

Wackernagel: Yes, there are — and we could fill books with them. But the real question is: Do we actually want them? We’re sitting in a boat with a big hole and saying, “As long as you people in the other boats don’t fix your holes, we’re not going to fix ours either.”

Should we define prosperity on the basis of criteria other than material wealth?

Wackernagel: Economic growth that’s more rapid than nature’s ability to regenerate amounts to exploitation and pillaging — it makes us poorer. We’re not advocating undermining the economy. On the contrary, we urge economies to focus on maintaining or even expanding our wealth. But the fact is that today we’re destroying wealth faster than we can create it. We’re facing a dilemma. If we take the 350 ppm-CO₂ threshold for climate change seriously, we need to admit to ourselves that we’re already far beyond it. We’ve also already let the best opportunities for reversing the trends go by.

What do you mean by that?

Wackernagel: If we had started taking measures back in 1972, we would probably already be able to completely cover our energy supply needs with renewable fuels. We could also have reversed population growth by more strongly promoting equal opportunities for women around the world. We could have made cities more compact and all houses highly energy efficient or even carbon neutral.

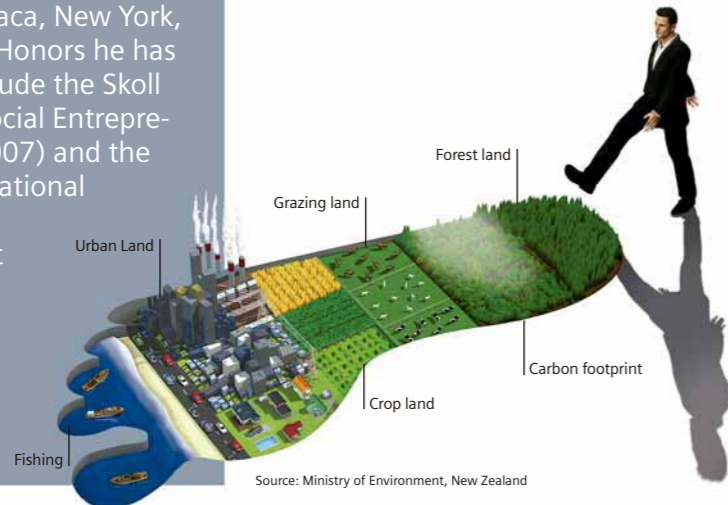
How have cities and countries reacted to your studies?

Wackernagel: Some have gotten the message and become proactive. The United Arab Emirates, for example, are thinking ahead as they are investing their oil income rather than just spending it. Abu Dhabi even made its financial support for Dubai contingent on the introduction of more stringent energy efficiency standards. They are also looking at the Footprint. Others who look at our calculations quickly get very defensive and try to fight us. But if an engineer calculates that a bridge is too weak and therefore needs more beams, nobody tells him or her to be more optimistic.

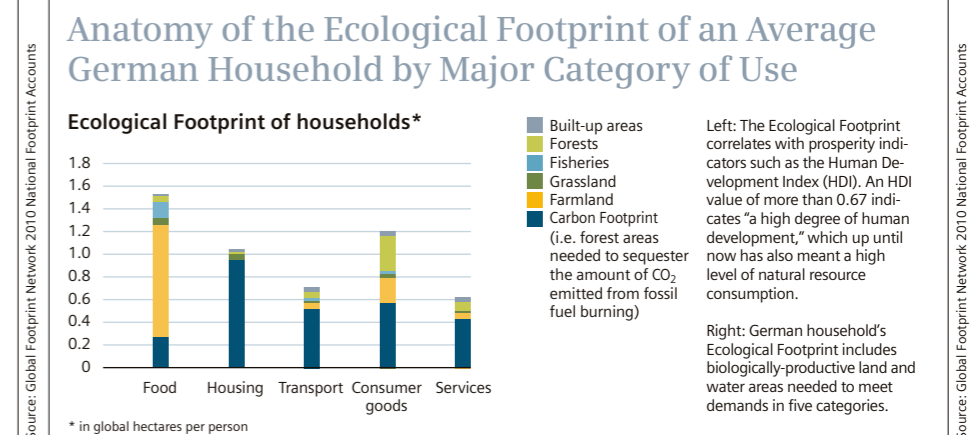
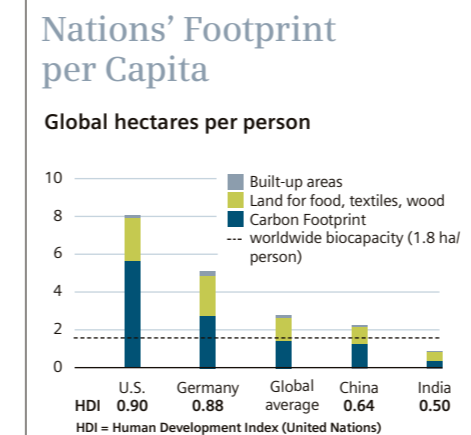
Describe your vision of the year 2050.

Wackernagel: I’m an engineer, so I see opportunities. The need for more compact cities and investment in opportunities for women remains high. The former will lower consumption, the latter will reverse population growth. We could also reform the tax system by introducing substantial, continually increasing energy taxes and use the income to promote innovation and sustainability. With the right innovations, we could all lead a marvelous life in 2050 — within nature’s budget. This scenario would require that the Ecological Footprint have the same standing as GDP. At present, we’re in an airplane whose pilot has taped over the fuel gauge instead of filling up the tank. Decide for yourself just how much sense that makes.

■ Interview by Hülya Dagli



Source: Ministry of Environment, New Zealand



Left: The Ecological Footprint correlates with prosperity indicators such as the Human Development Index (HDI). An HDI value of more than 0.67 indicates “a high degree of human development,” which up until now has also meant a high level of natural resource consumption.

Right: German household’s Ecological Footprint includes biologically-productive land and water areas needed to meet demands in five categories.