

ALEXANDER VAN OUDENHOVEN Institute of Environmental Sciences

Quantifying nature's benefits

If you cut down a forest, the obtained wood is valuable. But what is the value of protecting a natural forest – how do you quantify that? Answering this question requires indicators that go beyond money. Alexander van Oudenhoven is an expert in selecting suitable new indicators for 'ecosystem services'.

By Nienke Beintema

The growing world population with its ever-increasing consumption is putting a strain on natural ecosystems. Global interventions are required, which leads scientists and policy makers to wonder what we will lose if we don't act, and what we will gain if we protect the natural world. To answer these questions, scientists define indicators – measurable entities – for what they call 'ecosystem services'. Alexander van Oudenhoven is one of the main players in the field.

'Ecosystem services don't only include tangible items such as wood, fish, or fruit,' he says. 'They also include regulating services such as carbon sequestration, water purification and flood protection. A very important category are the cultural services: intangible benefits such as recreation, education, spirituality, inspiration, and sense of belonging. Quantifying all this goes beyond economic evaluation.'

Van Oudenhoven's specialty is finding relevant indicators for ecosystem services, and enabling their evaluation for policy and management decisions. 'This is quite a challenge,' he says, 'because you have to identify which features of a complex socio-ecological system can possibly contribute to human well-being. In addition, there is often a trade-off between services: if you use one, you can't have the other. That has an impact on how you want to manage the system.'



Before coming to Leiden, ALEXANDER VAN OUDENHOVEN (1983) obtained his PhD in Environmental Sciences in Wageningen (2015). He is the lead author of IPBES, the global UN-based assessment of ecosystem services.

To find indicators and support decision-making, Van Oudenhoven first studies how an ecosystem functions, how the system changes when people use its services, and how this in turn influences their well-being. 'I focus on how different management strategies can result in different services, and how this in turn can affect people's health, welfare and social values.'

Well-chosen indicators, he points out, do not just help advance science – they also help in communication. 'After all, you want to tell citizens and policymakers about the consequences of their choices, and provide alternatives. You can only do that if they really understand the trade-offs.' ❧