

How to halt the global decline of lands

11 February 2020, by Dr. L.I.j.m. Willemen (Wieteke)



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Land degradation—the reduction in the capacity of the land to support human and other life on Earth—is one of the humanity's biggest challenges. Yet, little is being done to slow down or stop the degradation process. A team of 20 leading researchers from all over the world, led by University of Twente researcher Wieteke Willemen, developed a strategy to halt land degradation. Their findings are published in the latest edition of *Nature Sustainability*.

High consumption lifestyles and continued population growth put enormous pressure on land and nature. This fuels a rapid expansion and unsustainable management of lands used for agriculture, forestry, mining and infrastructure. Discernible consequences appear in the loss of important ecosystem processes and a decrease in biodiversity, both developments that contribute to [climate change](#) and reduce food and water security, natural protection against flooding, and healthy environments. Land degradation has already negatively affected the living conditions of at least two-fifths of the people on Earth, and it is estimated to be reducing global economic output by one-tenth.

Positive outlook

The effects of degradation of land and nature are severe and impactful. However, a report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), published in 2018, provided a [positive outlook](#): There are numerous examples that show that coordinated policy and the involvement of various stakeholders may lead to significant results. The 20 researchers have now joined forces to formulate a universal strategy to overcome the most important barriers to successfully addressing [land degradation](#).

Five problems

"We can categorise these barriers into five systemic reasons that explain why the issue failed to attract global attention like for instance climate change did," says Dr. Willemen, who is an associate professor at the ITC Faculty of Geo-information Science and Earth Observation at the University of Twente. "Land degradation is invisible to many, it is not seen as a problem, it is hard to measure, and has no single cause to point at."

This is because consumers and policymakers are often typically far removed from the land they use, and the many processes influencing land degradation make it a problem that is easy to dismiss. There is also no sense of urgency for people who perceive land degradation simply as an inevitable side effect of human development. In countries where the problem is recognized, necessary action has been hampered by limited institutional competencies and motivation of policymakers. Few countries have the means to enforce their national land protection legislation if they have one. Last but not least, there is little agreement on standardized ways to measure land degradation. A well-defined and measurable metric is needed to guide policy, similar to 1.5-2 °C CO₂ target in global climate policy.

Ten solutions to restore the land

The team of researchers formulated a strategy with 10 solutions that could be applied everywhere to tackle the fundamentals of these problems. It describes ways to measure and account for costs and benefits of land use, set binding policy targets, make the best use of judicial institutions, and re-evaluate lifestyles and relation to nature.

"Here, we underline that public and private sector decision-makers, scientists and citizens all have a role to play in protecting and restoring land," says Dr. Willemen. In the paper, the authors summarize their strategy in an image that not only shows solutions to specific problems, but also identifies leading societal groups for these. "We chose the image of a hurdle track—a series of barriers that, with effort, are surmountable by all relevant groups," says Dr. Willemen. "We hope our strategy will motivate decision-makers at the upcoming 2020 Biodiversity Conference, stimulate [research funding](#), activate consumer initiatives, and facilitate strategic partnerships across these groups." Land [degradation](#) is a widespread, yet fixable problem.

More information: Louise Willemen et al. How to halt the global decline of lands, *Nature Sustainability* (2020). [DOI: 10.1038/s41893-020-0477-x](#)

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