

Protecting biodiversity requires transforming human-nature relations

By Tatjana von Steiger and Peter Messerli



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With global warming showing no sign of abating, population figures set to soar to ten billion by 2050 and biodiversity loss progressing, the need for transforming human-environmental systems is becoming only all too apparent. Our authors review the prospects for putting such a transformation into practice, stressing that reconciling human with environmental well-being requires a fundamental rethink process in which many voices need to be heard.

The UN Decade on Ecosystem Restoration got underway on the 5th June, setting the tone for upcoming summits on food systems, climate change, and biodiversity. It is a call for addressing, in an integrated manner, the triple challenge faced by humankind over the next 30 years: feeding ten billion people, keeping the global temperature increase below 1.5°C and halting – better still, reversing – biodiversity loss.

However, progress towards the Aichi Biodiversity Targets (see page 9), the Paris Agreement and, most importantly, the overarching framework for sustainable development – the 2030 Agenda – has been meagre, and the global pandemic is causing further setbacks. To manage the turnaround in this decisive decade, we will have to move from just repairing, to actually transforming, human-environmental systems.

The message is loud and clear: we need transformational change across economic, social, political, financial, scientific and technological domains. It is voiced in numerous reports, including the Global Assessment Report on Ecosystems and Biodiversity by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the UN's Global Sustainable Development Report (GSDR), the reports on climate change and land issued by the Intergovernmental Panel on Climate Change (IPCC), the EAT-Lancet commission on Food, Planet, Health – and, last but not least – the recent United Nations Environment Programme synthesis report, *Making Peace with Nature*. Still, we may ask, is it realistic to develop, within a decade, strategies which have the strength to transform the predominant models in a way that will avoid dangerous climate change, halt and reverse dramatic biodiversity loss, and meet the needs

of a growing global human population to lead the lives they value and aspire to? And how can such a transformation deal with existing power relations of actors in politics, research, the private sector and civil society, to create alliances for change and overcome obstacles and resistance?

The limits of commodification and protection

A good opportunity for such reflections is presented by COP15, the upcoming 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) in Kunming, China. The debate on how to halt/reverse biodiversity loss is itself controversial and raises many questions. Is it possible to reconfigure the harmful relation between people and nature using the current economic mod-

el, e.g. through certified commodity chains, ecotourism, payment for ecosystem service schemes or new modes of capital investments? Or is the current economic model the root cause of the problems we are trying to solve, and should we therefore avoid it as a remedy altogether? Should nature then rather be separated from people and allocated a specific share of the planet, to shield it from the consequences of the unwavering belief in the power of economic growth and technological progress? Or would separating nature from people in the era of the Anthropocene be not only utopic, but also highly unjust?

These radical aspirations and diverging ideas – but also the unresolved questions – show that we need to move to innovative approaches that offer a more differentiated model for solving this challenge. In other words, a third way enabling humans to share our only planet with other life on Earth. Such approaches can emerge when relevant actors critically assess the limits of their own perspectives and understand the necessity of a whole-of-society approach, as proposed by the UN's Global Sustainable Development Report or UNEP's *Making Peace with Nature*. This implies committing to a pluralistic perspective that is solution- rather than problem-oriented, where “biodiversity can represent a meeting point for the well-being of nature and people”, as described by Unai Pascual and colleagues in *Nature Sustainability*.

Rethinking human-nature relationships

An entire re-think is necessary to overcome the dichotomy between nature and people, and to reconfigure the relationship from a vicious to a virtuous cycle. A pluralistic perspective or a whole-of-society approach to address the triple challenge of creating sustainable food systems, adapting to/ mitigating climate change, and halting/ reversing biodiversity loss only makes sense if we acknowledge the engagement of different knowledge and value systems with nature. It can only work if these various views and voices are really heard and the people holding them are given the opportunity to participate in reflecting on and defining human-nature relationships and practices.

For this endeavour to succeed, it must be underpinned by social and environmental justice. As a compass, social and environmental justice can guide the new thinking about conservation and how we structure interactions among different actors with varying world views, values

and knowledge systems from science, policy and practice. Not only will this allow a disentangling of the multiple drivers of biodiversity decline. It will also help to address the trade-offs and identify the co-benefits between nature and people as a basis for a solution-oriented perspective promoting just nature-people relations.

Metrics and new ways of assessing progress of such new approaches are equally important. In adjusting the Human Development Index (HDI) to become the Planetary pressures-adjusted Human Development Index (PHDI), the 2020 Human Development Report is a concrete example of how to build a more pluralistic perspective. Besides measuring life expectancy, education and per capita income, the index offers countries another score adjusted for carbon dioxide emissions and material consumption. This lays bare a country's ecological footprint, offering a more comprehensive and objective assessment of where this country stands in its relation to nature. The adjusted index is therefore a stark example of how different the global landscape would look if progress were defined as the well-being of both people and planet.

Systemic transformation needs context-specific pathways

A Human Development Index adjusted by its planetary footprint not only shows a different pattern of a country's performance, it also highlights the heterogeneity of countries' development challenges, priorities and needs. Although the challenge of reconciling human well-being with environmental stewardship represents a universal task and the distance to this target is great for high- and low-income countries alike, just solutions must be developed in concrete local contexts, taking into account the specificities of local human-environment systems and their socio-political arenas. Developing such context-specific pathways thus represents an important precondition to

ensuring the plurality of answers needed to respond to the global challenges at hand.

The newly established Wyss Academy for Nature at the University of Bern, Switzerland (see Box) is committed to catalysing such innovative pathways to manage the above-mentioned triple challenge of land use/ food systems, biodiversity loss and climate change – in concrete local contexts around the world. By putting social and environmental justice centre stage, we strive to break down prevailing silos of sectors, stakeholders and mindsets. More specifically, we want to bring together science, policy and practice to co-design pathways that will have a timely impact while being just and evidence-based:

- **Science:** Rigorous science can help to address the underlying dysfunctions in food and economic systems and the way in which energy and infrastructure are provided. Moreover, new research can pursue human well-being and the stewardship of biodiversity, land and climate. It must reach out beyond academia to be complemented and enriched by lay, practical and local knowledge.
- **Policy:** Bringing knowledge to power means engaging with key decision-makers from academia, business, policy, finance and civil society. Supported by knowledge diplomacy, we aim at joint learning and negotiating processes to overcome blockages and create alliances to leverage systems transformation.
- **Practice:** Sourcing innovative ideas from science, policy and practice is the basis for co-designing solutions that will be incubated and tested in concrete contexts.

Initiating an iterative circle of collaboration between these key partners, we strive to create a new type of humus. In this fertile environ-

ABOUT THE WYSS ACADEMY FOR NATURE

At the Wyss Academy for Nature at the University of Bern, research, business, policy-makers and communities come together to co-design solutions for sustainable futures. The Academy's mission is to turn scientific knowledge into action. Combining ambitious, innovative goals with a transformative approach, it was founded in 2020 to develop innovative long-term pathways that strengthen and reconcile biodiversity conservation, human well-being and the sustainable use of natural resources in a variety of landscapes throughout the world. We co-design and implement concrete projects across a swathe of regions and countries. This global structure facilitates the replication of successes and learning. The Wyss Academy for Nature currently operates Hubs in Central Europe (Bern, Switzerland), Southeast Asia, East Africa and South America.



The Planetary pressures-adjusted Human Development Index (PHDI) allows conclusions to be drawn regarding a country's ecological footprint.

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ment, learning from success and failure allows new policies and practices for sustainable and just futures to be developed and provides the basis for scaling solutions beyond local contexts.

Creating "solutionscapes"

To transform the above tenets into concrete and actionable approaches, the Wyss Academy for Nature is focusing on land systems and their role in sustainable rural development as an entry point. The multi-functionality of landscapes across space and time allows multiple claims to be satisfied for a vast variety of goods and services such as food, fibre, water, carbon sequestration, conservation, recreation, culture and much more. The careful design and planning of land systems thus not only holds the key to solving the above-mentioned triple challenge of creating sustainable food systems, mitigating/ adapting to climate change and halting/ reversing biodiversity loss. It is also the most important bridge between nature and people – and between the SDGs.

Yet, landscapes are not always governed towards efficiency, justice, and sustainability. Land use policies often reflect power structures, short-term political considerations, greed and choices based on insufficient data

and reasoning. Furthermore, globalised flows of commodities, capital, people and information are shaping landscapes from a distance – and by powerful actors – rendering obsolete traditional planning units such as watersheds or administrative boundaries, adding new sustainability challenges but also opportunities to lever change.

Against this backdrop, the Wyss Academy has developed an approach we call solutionscapes. Guided by the goal of social and environmental justice, we identify options for navigating complex land systems and involve change agents to initiate transformations across space and scale. Using knowledge diplomacy, we use rigorous science to engage with key stakeholders from business, finance, policy, and civil society to overcome blockages and create alliances to leverage change. And we source innovative ideas and co-design projects that will be incubated and tested in concrete contexts. Via a Synthesis Centre and targeted Global Policy Outreach, we will collaborate with innovators and networks around the globe and share our insights with partners in policy, academia, business, finance and civil society. Ultimately, our success will be measured by our contribution to transformative changes of policies and practices that lead to sustainable and just futures for nature and people.

At the Wyss Academy, we strongly believe that complexity can be embraced in bringing together different perspectives. Science that is put at the service of local needs will help to design novel but concrete pathways towards sustainable development. Inevitable trade-offs can be turned into opportunities. Let's be humble, but bold – remembering that, as environmental scientist Erle C. Ellis wrote, "the planet we make will reflect the people we are".

Tatjana von Steiger is Head of Global Policy Outreach at the Wyss Academy for Nature. Her diplomatic career includes accomplishments in sustainable development and leading various international negotiations.

Peter Messerli is Director at the Wyss Academy for Nature at the University of Bern, Switzerland. He is a Professor of sustainable development at the University of Bern and has been the co-chair of the independent group of scientists appointed by the UN Secretary General drafting the UN Global Sustainable Development Report (GSDR) in 2019. Contact: tatjana.vonsteiger@wyssacademy.org