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Biodiversity Matters: The planet's ultimate life support

Our current use of natural resources is unprecedented and unsustainable with serious negative consequences for biodiversity and the supply of multiple ecosystem services and hence for human well-being and the achievement of many conservation targets and Sustainable Development Goals (SDGs).

Nearly three-quarters of the ice-free land area is affected by human use, about half intensively so. Since 1961, cropland production increased by more than three times and production of animal products more than two times, supported by a massive enhancement of fertiliser input (+800%) and doubling of freshwater withdrawal. Demand for fish has increased by >3 % per year, and more than half of edible fish consumption stems from capture fisheries. In absence of strong conservation policies and changes in per-capita consumption, agriculture is projected to continue to expand into biodiverse regions and to hasten species extinctions, while the world fish production (capture and aquaculture) is projected to increase by 18% between 2016 and 2030. Continued human population growth, and the concomitant increase in per-capita consumption raise serious concerns about the acceleration of overexploitation and pollution of ecosystems. Humanity depends on the multiple ecosystem services provided by land, freshwater and oceans. As highlighted in recent assessment reports by the IPCC and the IPBES, the risks to human societies arising from the unprecedented and unsustainable use of natural resources are large, with serious negative consequences for biodiversity and for human well-being, which prevent the achievement of many conservation targets and Sustainable Development Goals.

Most existing international biodiversity targets have as yet overlooked climate change impacts.

Until the present, climate change has so far not yet been identified as a primary driver behind the widespread losses of habitat, ecosystems and biodiversity. But reflecting the rate of warming, observational evidence is now rapidly increasing that indicates of widespread and pervasive impacts of climate change across the structural, compositional and functional dimensions of biodiversity. These observations fit with future scenarios, in which climate change is projected to become a significant driver of change for all systems, and could, in some regions, outpace the current drivers of biodiversity loss in the coming decades. At the same time, ironically, some climate change mitigation measures themselves may harm biodiversity directly, in particular measures that require large areas on land and/or result in further agricultural intensification which impacts then also freshwater systems. The Convention on Biological Diversity's post-2020 framework offers the important opportunity to address the interactions between climate change and biodiversity and revise biodiversity targets accordingly, by better integrating these with the UNFCCC Paris agreement.

It is worrying that most of the draft new targets in the post-2020 framework of the CBD do not feature any climate-change provisos. Without strong climate mitigation they will likely fail, even if other barriers to their achievement were removed.

Any measures put in place towards next-generation conservation goals need to anticipate the predominance and therefore potentially disastrous effects of climate change, and the associated natural and socio-economic feedbacks that can delay or obliterate conservation efforts. Considering climate change more directly in the definition and implementation of future biodiversity targets has clear co-benefits for addressing a wide range of environmental and societal concerns. It also reduces the risk that measures put in place for achieving a target will be ineffective. Both, "bending the curve" of biodiversity loss, and the ambition to retain, restore and protect natural ecosystems will be difficult, if not impossible, to achieve, unless climate change is considered explicitly as a main threat to biodiversity and ecosystems. Since the strongest impacts of climate change are expected to emerge in many regions from around mid-century onwards, even if biodiversity goals were seemingly achieved by 2030, this apparent achievement could well lead to a false sense of success as it could be quickly reversed in the decades to follow. Formulating "moving targets" and the associated required dynamically responsive policies is a huge

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challenge. One way to reduce the enormity of this challenge is to rapidly de-carbonise the economy and ensure that climate change is minimised.

Acting on climate change and reducing threats to ecosystems and biodiversity requires to pull multiple levers.

The overconsumption of animal protein, often from highly intensified production systems, is a large source of greenhouse gas emissions and requires large land areas for fodder production of pastures. A globally reduced, and more equitably shared, share of animal protein in diets would therefore free up land for conservation purposes or climate change mitigation measures, and come with health benefits. Likewise, reduced consumption of other ecosystem-demanding goods (such as cotton) will also support environmental objectives. Measures to reduce waste and losses of agricultural commodities, as well as marine produce, during growth, harvest, storage, transportation and on the consumer-side is a further important aspect to consider. Clearly, largest positive impact on land and water conservation and ecosystems achievable if measures address both production and production aspects. Such measures include a shift in misguided subsidies, education, incentives, environmental taxes, and require better integration of conservation, climate, agricultural and forestry policies.



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