CONCLUSION

Biodiversity and Health:

Bringing Systems Together to Transform How We Take Action

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One thing becomes obvious as our understanding of the links between biodiversity and health increases: it is no longer possible to think of them in isolation. The articles in this edition of FACTS Reports clearly show how biodiversity is more than simply an environmental framework for human health. It is in fact a critical "infrastructure" that directly conditions our food supplies, biological balances, capacity for medical innovation, and the resilience of our societies in general.

From farmland to human microbiota, zoonotic disease dynamics to therapeutic resources derived from the living world, everything is on the same continuum, reminding us that, sooner or later, every alteration to the living world will impact human health.

The figures are unambiguous. Almost 35% of global food production depends on pollinators,[1] and the origins of a significant proportion of emerging infectious diseases lie in interactions between people, animals, and degraded ecosystems. Equally, our knowledge of existing species covers a fraction of them, around 10%, even as their decline is accelerating. These orders of magnitude underline a simple truth: our health relies on a biodiversity that we do not fully understand, and that we are undermining at a rapid rate.

Given these realities, the key takeaway from this issue of FACTS Reports is that fragmentary approaches have reached their limits. Acting alone on the climate, biodiversity, health, or food inevitably leads to trade-offs that are unsatisfactory at best, when not actively counter-productive. On the other hand, the different bodies of work presented here, whether looking at food systems, microbiota, emerging diseases or biomimetics, all agree on the need for thinking systemically so that natural ecosystems can be linked with economic systems and health dynamics.

This integrated approach lies at the heart of the One Health framework and is now a precondition for effectiveness rather than a conceptual option. It calls for a shift in perspective, from focusing only on limiting impacts to working to restore functional balances between human systems and systems in the living world.

This transformation is now a strategic issue. In January 2026, the British government explicitly labelled biodiversity loss and ecosystem collapse as direct threats to national security owing to their potential impacts on public health, supply chains, access to vital resources, and geopolitical dynamics.[2] This is a powerful signal heralding a shift in how states view issues that are no longer simply environmental concerns, but constitute challenges to the systemic resilience of our societies.

This being the case, thinking in terms of systems is not enough: action requires alliances. The diversity of contributions in this issue points to another vital necessity: to decompartmentalize actors, share expertise, and organize the effective circulation of knowledge between fundamental research, applied research, businesses, institutions, and civil society.

The most promising advances in agroecology, microbial medicine, eco-epidemiological surveillance, and biomimetics are all based on the capacity to connect disciplines that far too often continue to work in silos. These areas of crossover are where decisive breakthroughs are created, and from them can emerge a form of collective intelligence capable of engaging with the complexity of the living world.

In this context, artificial intelligence may prove decisive, responsible for accelerating both challenges and solutions. On the one hand, it increases environmental pressures, primarily because it needs massive amounts of resources (water, energy, land) and a lot of infrastructure. On the other hand, it offers the promise of unprecedented capacities to understand the extraordinary complexity of interactions between biodiversity and health.

1 IPBES (2022) Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services, p.9.2, FAO Home | Global Action on Pollination. https://files.ipbes.net/ipbes-web-prod-public-files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf.

2 HM Government (2026) National security assessment - global biodiversity loss ecosystem collapse and national security, p.6. https://assets.publishing.service.gov.uk/media/696e0eae719d837d69afc7de/National_security_assessment_-_global_biodiversity_loss__ecosystem_collapse_and_national_security.pdf.

By allowing massive amounts of data to be processed, such as genomics, environmental surveillance and clinical research, AI opens the door to a more granular understanding of ecological and health dynamics as well as to the development of better targeted and more efficient solutions. Provided that there is ethical and responsible oversight, AI could become a key tool in bringing about convergence between scientific knowledge and operational action.

This shift also calls for greater pragmatism. Contrary to received wisdom, many of the solutions already exist: restoring ecosystems, transforming agricultural practices, embedding biodiversity into health policies, innovations inspired by the living world, and prevention mechanisms rooted in greater understanding of ecological interactions.

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However, difficulties with scaling mean their impact remains limited. Solving this will require working more effectively to develop the links between research, innovation and economic models in order to transform initiatives that are often local into truly system-wide trajectories. Moving to scale also calls for financial incentives and regulatory frameworks to align with targets for protecting health and the living world. This is vital to overcoming the fixation on short-term objectives.

As well as covering a range of technical and scientific solutions, this edition also focuses on a more deep-seated change: the narrative shift. By positioning health as central to the challenges facing biodiversity, new narratives provide a common language that is capable of mobilizing on a scale that reaches much further than expert circles. Because there is more at stake than just preserving ecosystems; the ability of our societies to offer living conditions that are sustainable, fair and secure is also in the balance. Biodiversity, whether visible or invisible, spectacular or mundane, is the cornerstone this ambition is built upon. Biodiversity is a guarantee, a resource, and a source of innovation.

Ultimately, the added value offered by this edition of FACTS Reports lies in its ability to create links, provide structure, and look to the future. Creating links between disciplines, actors, and scales of action. Structuring systemic understanding of the links between biodiversity and health. Looking to the future to identify workable actions rooted in cooperation, knowledge, and experimentation.

This approach offers a vital anchor in an age of growing uncertainty: it makes it clear that the challenge does not only involve limiting risks, but reinventing growth models to make the living world a central plank for everybody's health and wellbeing.

This is now a collective responsibility. Researchers must continue to explore interdependencies in the living world. Businesses must embed these challenges into the heart of their strategies. Public authorities must create the conditions needed to scale up. And more generally, every one of us must contribute to this transformation and the behavioral changes required.

Because fundamentally, as so powerfully described in the articles in this edition, protecting biodiversity is not only an environmental question: it is very much a condition for our survival, now and in the future.

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