

# ● Socio-ecological coviability as a response to the planetary emergency

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## Background

The collapse of biodiversity, climate change, health crises: the ecological emergency is forcing modern societies to adapt and, more importantly, to transform in order to survive. The question is *how* to achieve not just an “ecological transition”, but also a real metamorphosis so that we can remain viable and have a future. The Sustainable Development Goals propose a lane change, a different way of living on Earth, by reconnecting to the biosphere. Should we therefore pursue a process of “development” or instead opt for a future state of “viability” for the sustainability of human societies?

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### Further reading

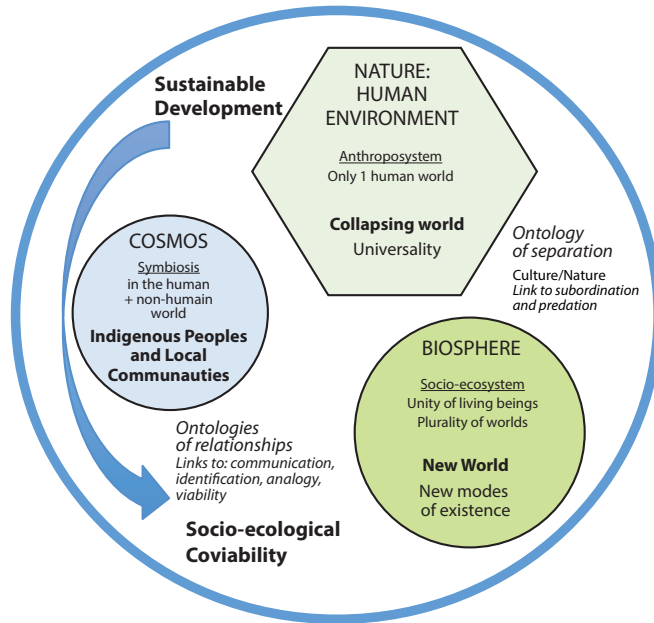
BARRIÈRE O. *et al.*, 2019 – *Coviability of social and ecological systems*. Springer, 2 vol.

## From development issue to sustainability issue

The finiteness of the planet's resources has led us to envisage another form of economy, one that is no longer based on continuous growth and development, but on the ability to adapt, or become resilient, to the expected and ongoing effects of disruptions to ecosystems (violent climatic conditions, land degradation, pollution, artificialisation, etc.). Sustainability is the ability of an entity to live and survive, but it is important to specify that this must happen in a state of well-being (social and in terms of personal physical and mental health) and even happiness. The viability of any system, human or non-human, depends on other systems that surround it to a greater or lesser extent. Viability is therefore only possible through coviability, both for human societies and for the rest of the living world. Socio-ecological coviability is therefore best understood as interdependence between humans and non-human species, characterised by a close relationship involving its regulations and constraints. This relationship creates a viability link that depends on co-evolution in an integrated socio-ecological system (Barrière *et al.*, 2019). Coviability therefore focuses on the spaces and thresholds of viability. It acknowledges the importance of the relationship between humans and non-humans to achieve joint viability, which translates into a sustainable mode of existence. In this respect, coviability is intimately linked to the challenges of sustainability science.

## Being part of the biosphere

The ecological emergency is driving modern societies to rethink their relationships with other living creatures by thinking in terms of socio-ecosystems. Human diversity generates a variety of ways of living and existing in the world. Modern societies have invented the concept of "nature" on the grounds of a rational approach that separates humans from non-humans. The challenge is to move away from the idea of nature – a truly artificial construct – as a mode of existence based on the separation of living things, and to move towards relationship-based modes of existence between humans and non-humans: the future of humans is now intimately linked to non-humans. One obstacle to overcoming this lies in the globalised liberal economy, which provides a relationship of appropriation of living things that is characterised by "capitalisation" (leading to the concept of "nature capital"). The most obvious example is land, which has been transformed into a commodity by the property ownership system. The concept of "nature" clearly demonstrates the duality: modern societies separate themselves from other living things on the basis of supposed supremacy that justifies a relationship of subordination and predation. Breaking out of this paradigm, or at least creating a hybrid version of it, requires us to enter another dimension (ontological relationships with non-human species: ways of being and existing), as exemplified by indigenous peoples or certain local communities.



The transition from the human environment (nature) to the biosphere (the living) requires relationships to be formed.

### Three pillars of socio-ecological coviability

1. Coviability is structured around three elements that underpin its materiality: interdependence between humans and non-humans, underperformance and local territoriality.
2. Ecological solidarity: achieving interdependence. The idea of mutual dependence crosses the human social space to reach an ecological dimension. This was introduced into French law in 2006 and 2016, for example, through the concept of functional connectivity between habitats and species, defined by the

- interactions within living organisms. The interdependence of human societies with ecosystems reflects a joint viability and a “reliance” between humans and non-human species.
3. Sub-optimisation: restricting performance. Living beings are not optimal, they are sub-optimal. Optimisation is detrimental because it reduces pathways to a narrow range, thereby limiting the ability for adaptation and even resilience. Living systems can bypass difficulties because they always operate in a dynamic

state, exploring possibilities. The evolution of living creatures did not select performance as a continuous state, but as an exceptional one: for example, the rise in body temperature for the immune system to function at full capacity before returning to its suboptimal norm. By contrast, evolution did select the ability to survive environmental fluctuations and to transform oneself – if conditions demand it – with two “weaknesses”, randomness and redundancy, which cancel each other out.

4. Resettlement: giving ourselves a future. The local territory is a key factor in the ability to adapt to climate change and to deal with the ecological and social emergency. The implementation of land stewardship, a form of empowerment by territorial stakeholders, can transform the relationship that social groups have with their living environments through being involved in their future as part of a contributory democracy.

### The operationalisation of coviability: a territorial pact formalising a coviable existence project

Coviability can be achieved through local regulation, endogenous to the territory. The CovPath project (Pathways to Sustainability, Belmont Forum, 2021) proposes implementing this concept of socio-ecological coviability by starting with local stakeholders (populations, managers, policymakers, etc.) in eight biosphere reserves on four continents. The project plans to prepare a guide on the human and non-human interactions that define coviability. This work will lay the foundations and prospects for extrapolating this new pathway towards sustainability, firstly by developing a methodology for the co-constructed and participatory implementation of this pathway and, secondly, by setting up a system of governance (management and regulation) of natural resources.

## KEY POINTS

Socio-ecological coviability is thought of in terms of socio-ecosystems: the viability of the human system is intimately linked to that of non-human species. The challenge is to determine “what constitutes coviability” and “what is not coviable”. We start with sustainability science using empirical research. There is a clear need to identify the interaction networks, to understand their emergent properties, to extract the thresholds of viability with constraints and regulations. The operability of an implementation of coviability requires investing in action research through experimenting with “coviability pacts” on a territorial scale to achieve ecological transformation through territorial stewardship.

# SUSTAINABILITY SCIENCE

**UNDERSTAND, CO-CONSTRUCT, TRANSFORM**

Collective thinking coordinated  
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