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New definition of sustainability overcomes contradiction hampering global transformation efforts

An interdisciplinary team led by Senior Researcher Dr. Christoph Rupprecht (FEAST Project, RIHN) has revealed a new definition of sustainability that expands the concept to non-human species and their needs. With this new definition, published in the journal *Global Sustainability*, the researchers addressed a critical flaw in the original concept of sustainability that was hindering global transformation efforts. Examples from landscape planning and the Healthy Urban Microbiome Initiative (HUMI) suggest the new multispecies sustainability concept will have wide-ranging applications.

The team of nineteen researchers identified a contradiction at the core of sustainability: its resource management approach ignores that the well-being and needs of all living beings is interdependent in ecologically complex ways. To overcome this critical flaw, they combined recent advances in multispecies ethnography with research by Indigenous scholars and insights from cybernetics. Based on this work, the team formulated a set of six principles and a new concept of multispecies sustainability, defined as meeting the interdependent needs of all species while enhancing the ability of future generations of all species to meet their own needs. The researchers then showcased potential applications that help enable human-wildlife coexistence and radically rethink urban greenspace design based on recent microbiome and public health insights.

“Whether you look at climate change, biodiversity decline or microplastic pollution, sustainability efforts are failing across the board. Researchers pointing to capitalism and arguing for degrowth are not wrong. But radical transformation requires the right tools. Only a concept that understands and fosters complex multispecies relationships can help sustain the well-being of species depending on another, today and tomorrow,” argues Christoph Rupprecht, lead author of the study.

An analysis of how the sustainability concept has been visualized in the literature underscores the team’s findings. In the sustainability concept, environment, society and economy are given equal weight (Figure 1), despite the latter two depending entirely on the former. In contrast, in the new study, the conceptual models developed by the researchers involve taking a nested approach focused on the interdependence of human, animal, plant and microbial societies (Figure 2). Another model emphasizes how the earth system including landscapes, cities and the bodies of living things is shaped by shared agency (Figure 3).

Rupprecht adds, “Our work would not have been possible without building on Indigenous knowledge. Many best practices have been developed by Indigenous people and are part of traditional ecological knowledge systems. Think about it. Which societies and cultures have the best track records in co-existing with other species?”

The team hopes their findings will be a starting point for exploration and discussion. From questions about what multispecies cities might look like to the implications of a multispecies inspired concept



of public health, there may be only few areas where a multispecies approach to sustainability will not bring fundamental changes.

Lead author biography: Dr. Christoph Rupprecht is a geographer with the FEAST Project at the Research Institute for Humanity and Nature, specializing in research on cities from the perspectives of food, agriculture, green space, degrowth and multispecies/more-than-human thinking.

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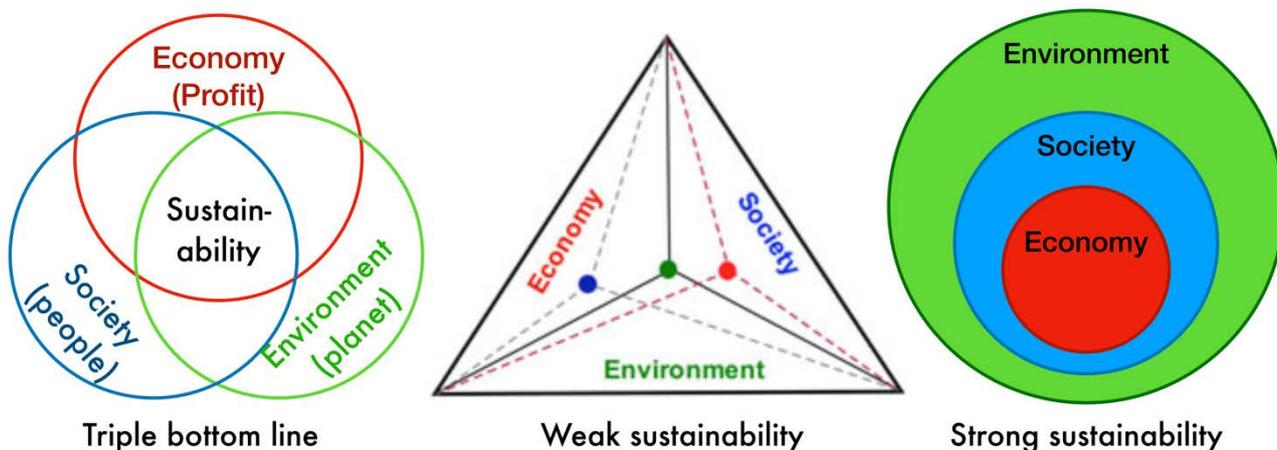


Figure 1 Visualizations of the sustainability concept (adapted from Wu, 2013).

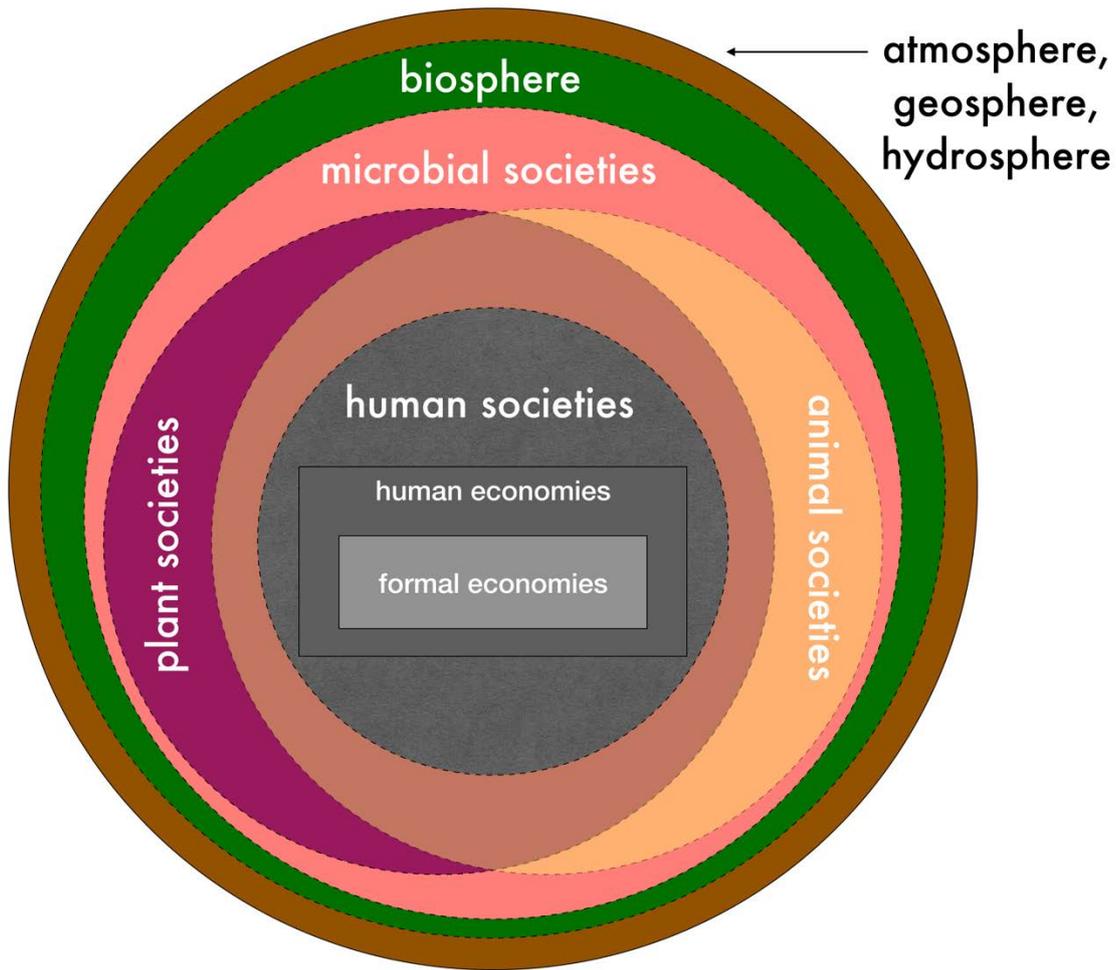


Figure 2 Visual model of multispecies sustainability focused on interdependence. Elements depend on those containing them, and are affected by those they contain.

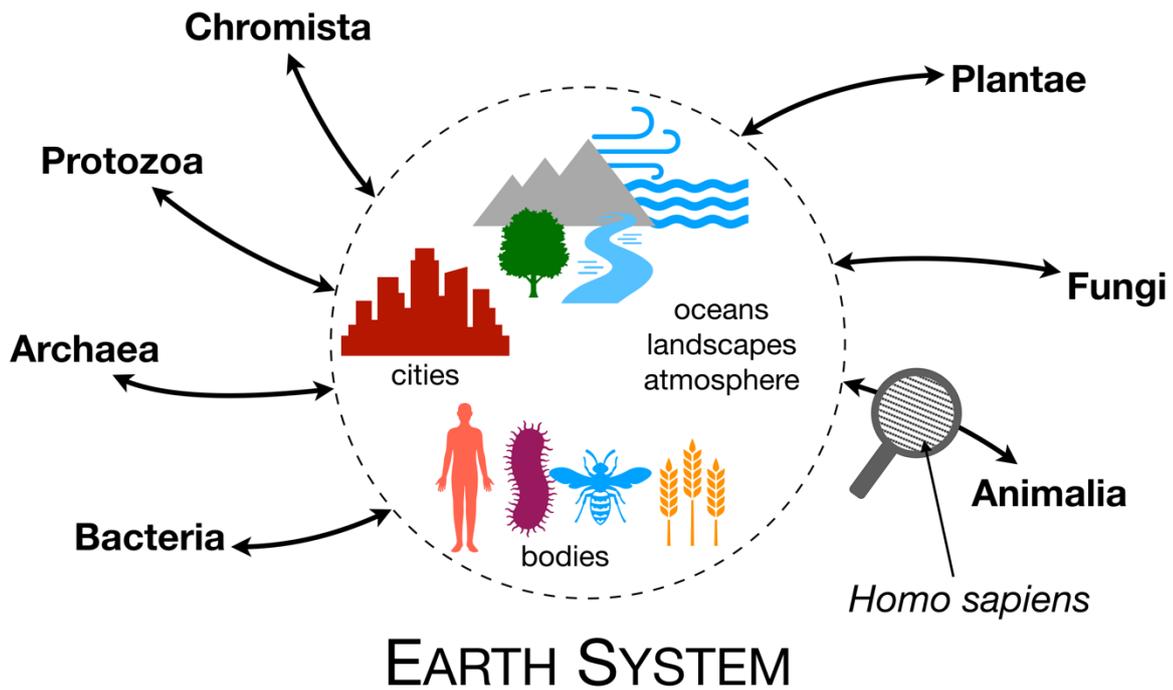


Figure 3 Visual model of multispecies sustainability emphasizing shared agency in shaping the earth system.