



Sustainability tomorrow: Identifying challenges, analysing approaches and assessing future strategies

Video Transcript

Biodiversity Loss: Transfer

[Prof. Dr. Patricia Holm] This is the general framework that you have come to know in this course. We applied it to the question of what strategies are needed to develop a future and sustainable energy system. In order to do this, we adapted the elements of the coupled human-nature system to the issue. We then formulated suitable goals based on the result.

Now I would like to explore how the framework can be applied to a different challenge. What is needed to stop the biodiversity loss that we are experiencing today?

This is the framework adapted to the challenge of biodiversity loss. On the right side, in the societal sphere, there are no changes. This is because society does not change – at least on this level of abstraction. So, we have individuals and households as consumers of ecosystem services.

Depending on lifestyle and socio-psychological profile, social identities of course use different ecosystem services in different ways and to different extents. The consequences of their attitudes and activities become tangible in the actions of voters. These consequences are ultimately reflected in politics and governance, as well as in the market and in socio-technical systems.

On the left, there are changes in the perception of structural elements. Viewed through the lens of biodiversity, nature provides ecosystem services, species and genes. Humans use these goods and services intentionally, for example in the form of food, forests and more.

However, the mere presence of humans and their activities cause unintended side effects. These include waste, disturbed landscapes and ecosystems, and the extinction of species.

The next step is to provide goal dimensions. We have developed a whole bunch of ideas. You can study them at your leisure by looking at the scheme attached to this step.

For example, let's start on the left side, where nature is the focus. The aim is clear: we should preserve the ability of the different components of the geo- and biosphere to be resilient. To achieve this, we have added several specific goals. For example, the UN Conference of the Parties has adopted the 30/30 goal.

The nations have agreed that 30% of the Earth's lands, oceans, coastal areas and inland waters must be protected by 2030.

In general, the use of bio and ecological resources should be sustainable. Among other things, this means that humans must significantly reduce their per capita consumption. We also need to strive for a green economy and regenerative agriculture to ensure sustainable food production.

Now look at the goals in the upper left corner. To reduce or eliminate the unintended side effects resulting from the human impact on nature, we need to address the problem of waste. One goal would be to ensure that humans do not produce more waste than the sink capacity allows. Another goal is to recycle non-renewables and to protect biodiversity and landscapes.

We invite you to work with this scheme and identify more specific and target-oriented goals. Take agriculture, for example. One goal could be to restore and preserve biodiversity in European landscapes. You can attribute this goal to the middle section, where the sphere of nature and the sphere of society overlap. This goal was outlined in the European Academies Science Advisory Council, EASAC, in 2022.