Collegio futuro

Topic III - Class 2023/24

Sustainable land use - ecosystem restoration on marginal land

The human population is currently using about 75% of ice-free land. However, the land left for nature is typically concentrated in biomes that have low productivity, such as deserts, high mountains, tundra, and so on. Consequently, primary production in these wildernesses is about 11% of global primary production.

Many initiatives emphasize the importance of restoring natural ecosystems to stop the decrease of biodiversity, combat global change, and improve ecosystem service provisioning. This is happening in the context of increasing pressure on existing land to provide food, fuel, fibre, drinking water, and other resources for a growing human population.

In this topic, we will explore the possibility of marginal land serving as suitable land for the restoration of natural ecosystems and ecosystem services. Marginal land, such as land degraded by mining, civil engineering, industrial activities, or intensive agriculture, has typically low economic value. Soils in these ecosystems may be depleted of nutrients and organic matter, and vegetation may be destroyed. This might form a barrier for commercial use in agriculture but represents very suitable starting conditions to restore a natural ecosystem. We will explore the advantages and constraints of using marginal land for the restoration of natural habitats. We will also outline possible measures to eliminate constraints and strengthen the advantages of this approach.

Impulse lectures

Prof. Dr. Jan Frouz, Restoration ecology, Charles University in Prague

Prof. Dr. Ladislav Miko, Ministry of the Environment of the Czech Republic & Charles University in Prague

External partner: GEO-NATUREPARK Bergstrasse-Odenwald, UNESCO Global Geopark