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1079 [Responsibility of S&T for the Global Commons](#)

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Responsibility of science and engineering for the global commons

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„Global commons“ (GCs) is a term applied to those natural assets which no one person or State may own because of their crucial role as enabler of life on Earth. Included in the list of GCs are not only physical entities such as oceans, forests and the atmosphere but immaterial values as well, for instance cultural identity. Marine and forest ecosystems in interdependence with the atmosphere are assumed to regulate the global surface temperature so that a significant fraction of water remains present on Earth in its liquid state. In addition, ecosystems regulate the atmospheric content of CO₂, O₂ and water vapor. In summary,

conditions are provided which satisfy oxygen, water and food demand of people and other creatures. However, the wellbeing of people depends not only on a reasonable supply of basic resources. Equally important are economic and societal conditions to be kept in balance by virtue of ethical norms set in the various cultural regions of the world. Apparently, the various material and immaterial global commons are intimately connected to each other forming a highly complex system.

Because the aggregate of GCs is crucial for the preservation life on Earth they require absolute protection by mankind represented by the United Nations as a supra-national authority. Hence, GCs ought to fall under supra-national jurisdiction but so far regulations do hardly exist. As a result irresponsible exploitation of oceans, forests and atmosphere as sources and sinks remains common practice leading to global crises including the climate crisis.

More recently, some of the GCs are used as laboratory for testing innovative methods of geo-engineering designed to combat global warming and climate change. Presumably, execution of large scale trials such as ocean fertilization or seeding of the upper atmosphere with sulfur particles are necessary to build up a portfolio of methods applicable in the battle against the negative impacts of global warming. It is a dangerous undertaking, though. To avoid irreversible deterioration of the function of the GCs scientists and engineers are called on to exercise extreme care while planning and executing large scale trials. A global commons trust should be made available to finance advanced research which is holistic and multi-disciplinary in nature. A United Nations body needs to be established and authorized to commission and control large-scale trials with the aim to safeguard the life-enabling function of the GCs.

See more of: [Human Dimensions of Geoengineering](#)

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