

# **SOS Treaty**

## **The Safe Operating Space Treaty**

**A New Approach to Managing Our Use of the Earth System**

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It is now clear that international law is not yet equipped to handle the ecological goods that exist simultaneously in and outside of all states. There exists a structural, theoretical flaw in the approach taken to date to the global “whole”. The starting point on how reality has been framed is not what by, its nature and characteristics, is truly common but the remaining part of the appropriation. The global commons have always been (and continue to be) understood as geographical spaces that exist only outside the political borders of states. The global, diffuse and intangible character of a vital good such as a stable climate, existing both within and outside all states, with the effects of the damage caused extending over several generations, have served to transform this traditional approach into an ecological nonsense. The dysfunctionality of existing legal instruments has not only long since been recognised, but has also triggered several attempts to build concepts, which, however, are soon found to be inoperative, with no legal consequences in terms of rights and duties.

A major advance was recently made towards unravelling the nebulous arguments composed of legally vague and undefined concepts disseminated in national and international legal texts. This advance was made possible because of our increasing understanding of the Earth System, in particular the possibility of measuring and monitoring its state and functioning through the Planetary Boundaries framework (Rockström et al. 2009; Steffen et al. 2015). The framework, which aims to define a planetary safe operating space within which humanity can survive and thrive, is based on a scientific understanding of the structure and functioning of the Earth System, and of the risks that destabilisation of the system creates for human well-being.

International Law expressions such as the common concern of mankind, common interest, life-support system, intergenerational equity or sustainable development can now be realised through a set of indicators that may be used to translate and delineate the lack of legal definitions. This set of indicators anticipates a legal paradigm shift that will overcome the disconnection between ecological realities and existing legal frameworks and work towards an Earth System law.

From the legal perspective, today the Earth System is an ULO - Unidentified Legal Object, (Melot and Péglise 2008)<sup>3</sup>. The discovery and definition of the “Safe Operating Space of Humankind” as a favourable state of the Earth System (with interacting ocean, atmosphere, cryosphere and land components) corresponding to a biogeophysical space, and therefore as a qualitative and non-geographic space, requires a reorientation of how the Earth System has been seen until today. In this sense, the Common Home of Humankind should not be understood as a planet with 510 million square km<sup>2</sup>, but should rather be represented by a specific favorable state of the Earth

System, using as a baseline the geological period of the last 11,700 years, the Holocene. Therefore, the necessary evolution of as yet undetermined legal concepts such the Common Concern of Humankind should have as its foundation this new known reality. Setting sustainability targets (e.g., the Sustainable Development Goals) requires the identification of minimum thresholds beyond which human impact on the Earth System is unsustainable, and the adoption of a systemic approach reflecting the complex interactions that characterise the Earth and its human sub-systems.

This environmental “grundnorm”, therefore, should be the basis for any specific law of general acceptance and reasonableness (Rakhyun and Bosselmann 2013)<sup>4</sup>. The Common Home of Humankind, as a social construct, should above all also be a legal construct, and should therefore be based on legal solutions to represent this global natural reality.

The moral and legal concept of the ‘Common Heritage of Mankind’ could be used as part of this strategy to generate a legal paradigm shift. The legal concepts of ‘Common Heritage of Mankind’ (CHM) and World Heritage (WH) possess great potential for evolution towards instruments capable of protecting this vital and global good. However, on the one hand the WH has been applied only to goods that are found within the geographical area of states, and on the other hand, the CHM is applied to areas outside the political borders of states. However, the WH concept has already made the shift from tangible cultural heritage towards intangible cultural heritage. It seems that we can now follow this pathway in regard to natural heritage. So, having a way to represent a favourable state of the Earth System by defining the structure and functioning of the system, we propose the recognition of a well-defined state of the Earth System as a world natural intangible heritage of humankind: a truly World Heritage.

This new natural heritage should be the human constructed space that represents the favorable bio-geophysical conditions for our species and to which a system for the management and maintenance of Earth System use is attached. So by constituting a specific state of the Earth System (i.e., a Holocene-like state, as defined by the planetary boundaries framework) as natural intangible heritage, all positive and negative externalities end up being included within the maintenance system of the Common Home.

# EARTH SYSTEM



Figure 1/ A comparison of the existing and proposed Earth System management regimes (Magalhães.P. 2016)

The objective to legally recognize the existence of this truly Intangible Living Space as Common Heritage of Humanity only makes sense if, from this recognition, the different human interactions with the Earth System are made visible, and in so doing, practical consequences in terms of rights and duties are drawn. For this to happen, it will be necessary to create instruments that are capable of portraying and representing this natural reality within the structure of social organization. Therefore, a new metric is required that is able to represent both the negative and positive impacts that all countries exert upon the state of the Earth System so that every unit of this metric provides economic, environmental and social visibility. Conceptually, this new metric should be an aggregation of indicators that represents the core processes that regulate the stability and resilience of the Earth System. The benefits delivered upon the Earth System include all the biogeophysical processes that contribute to maintaining a stable Earth System within this safe operating space for humanity (i.e., maintaining a stable state of the Earth System). Likewise, the chemical, biological and physical process, resulting from human activity, that push the Earth System out of the Safe Operating Space for humanity must also be recognised and accounted for. Because they contribute to the degradation of the state of Earth System, they should generate a debit on behalf of the State that exercises the sovereignty or sovereign rights over the place where this activity is undertaken. By the same reasoning, an activity that strengthens the Safe Operating Space of the Earth System should earn a credit in favor of the state in which the benefit has its origins.

The creation of each unit of benefit will correspond to a credit, and its consumption to a debit, towards the common heritage. Upon attributing a monetary value to each of these units, it becomes possible to provide economic visibility to these vital factors and initiate a process of stewardship of the Earth System. These will be the required structural conditions for collective action, as from the moment onwards that benefits produced towards the Earth System correspond to a compensation, there will exist an incentive for generating benefits to the common heritage as well as a system that creates disincentives to damage it. All parties involved in managing the Common Heritage will know the balance of credits and debits of all others in regard to the use of the Common Home, so that a positive competition will be initiated towards maintaining the status of the Earth System within its Safe Operating Space. Assigning an economic/financial value to these activities that affect the state of the Earth System requires a legal solution that recognizes the social existence (legal) of the benefit or the damage. Only non-territorial legal support can uphold global benefits, and, as a consequence, financial and economic visibility may be possible. In this sense, the desired transition from an economic paradigm of resource exploitation towards an economy of care and maintenance of the Earth System requires the construction of new theoretical formulas based on already established knowledge of the Earth System. The shift from an economy of exploration of resources to an economy of production of common resources implies not only the recognition of the existence of a common intangible heritage on a global scale, but also an accounting system of global biogeophysical flows in a wider system of international compensation.

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### References:

- 1) Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, III, F.S., Lambin, E.F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J., Nykvist, B., de Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P. and Foley, J.A. (2009). A safe operating space for humanity. *Nature* 461: 472-475.
- 2) Steffen, W., Richardson, K., Rockström, J., Cornell, S.E., Fetzer, I., Bennett, E.M., Biggs, R., Carpenter, S.R., de Vries, W., de Wit, C.A., Folke, C., Gerten, D., Heinke, J., Mace, G.M., Persson, L.M., Ramanathan, V., Reyers, B., and Sörlin, S. (2015) Planetary Boundaries: Guiding human development on a changing planet. *Science* 347: DOI: 10.1126/science.1259855
- 3) Melot, R. & Péglise, P. (2008). Prendre la Mesure du Droit: Enjeux de l'Observation Statistique pour la Sociologie Juridique. *Revue Droit et Société*, 60/70, 331–346. Retrieved from <http://www.cairn.info/revue-droit-et-societe-2008-2-page-331.htm>
- 4) Rakhyun, E. K. & Bosselmann, K. (2013). International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements. *Transnational Environmental Law*, 2, 285–309. doi:10.1017/S2047102513000149