

Sustainability, behavior patterns and crises

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https://label2.tecnico.ulisboa.pt/vilela/Papers/Sustain_Gov2.pdf

"Meeting the needs of the present without compromising the ability of future generations to meet their own needs"

The Brundtland Report, World Commission on
Environment and Development, October 1987

The needs of the present: UN Sustainable Development Goals (2015-2030)



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 - # Between 2015 and 2022, the variation of the Ginni index differs from region to region but the world average remained the same = 0.67.
- **Goal 13: Climate action** - This has a central role and impact on all SDG's
 - # Mean atmospheric CO2 at the Mauna Loa Observatory: In 2015: 402 ppm; in 2024: 422 ppm
 - # Annual CO2 emissions (fossil fuels and industry): In 2015: 35.7 Gt; in 2023: 37.5 billion tonnes

Are the needs of the present being met?

● Goal 16: Peace, justice and strong institutions

Armed conflicts

In 2015: 103608 deaths; in 2022: 204009 deaths (UCDP)

Justice and strong institutions

	<i>Participation</i> (2015)	(2022)	<i>Rule of law</i> (2015)	(2022)
<i>Russia</i>	0.36	0.31	0.35	0.33
<i>China</i>	0	0	0.38	0.35
<i>Saudi Arabia</i>	0	0	0.39	0.35
<i>USA</i>	0.77	0.67	0.78	0.7
<i>Canada</i>	0.8	0.82	0.83	0.78
<i>Germany</i>	0.92	0.87	0.93	0.91
<i>Portugal</i>	0.89	0.82	0.75	0.66

From 2015 to 2022 the situation became worse, except, of course, in China and Saudi Arabia where the degree of participation remains stable (at zero).

The needs of the future

- **In conclusion:** If not even the *"needs of the present"* are met, how could one expect any consideration for the needs of the future?
- This is a serious matter because, meeting the needs of the present, is perhaps the best way to not compromise the needs of the future.
- The 2030 SDG's of the UN are a nice inspired invention of the human mind. Why are they not being implemented? Two hypothesis:
- 1 - They are irrelevant nonsensical do-gooder wishes, incompatible with human nature.
2 - There is nobody to enforce them.
Both hypothesis are probably true.

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 - # *Characteristic processes of human evolution caused the Anthropocene and may obstruct its global solutions*, T. M. Waring, Z. T. Wood and E. Szathmáry, *Phil. Transactions of the Royal Society B* 379,1893, 13 November 2023

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- In fact, some evolutionary mathematical models imply that the **behavior patterns**, that humans evolved, hinder the fulfilment of the sustainability goals.

Human evolution and behavior patterns. Results of the mathematical models (Bowles, Gintis, Choi, RVM, Aguirre)

- Humans, interacting with other humans, have developed a behavior pattern for the majority of their social interventions and interactions with Nature.
- Evolution driven by genes (Pleistocene) then by culture
- The Homo Sapiens expansion has been based on developing new techniques to control new territories and natural phenomena.
- Only possible with the development of *cooperation*
- Under **intra-group dynamics**, cooperation requires both large collective "punishment" and initial conditions containing sufficient number of agents with this trait. Free-riders are never eliminated. On average, strong cooperation has small probability in intra-group dynamics → the most probable outcome is a *tragedy of the commons*
- ⇒ Cooperation **is not evolutionary stable** in intra-group dynamics

Human evolution and behavior patterns. Results of the mathematical models

- However, cooperation is advantageous for inter-group competition. It is **stable under inter-group competition**.
- The result: (Parochial-)Cooperation and war are born to the world at the same time.
- Cooperation allows for better performance in the exploration of the resources of the natural world \Rightarrow growth.
- **Parochial Cooperation - conflict - growth** became the behavior paradigm for the Homo Sapiens.



Behavior pattern and crises

- 1) In the absence of conflict, collective control (punishment) of free-riders is only effective in small groups. Becomes difficult in larger groups \Rightarrow decreased fitness of larger groups \Rightarrow **Extinction** or development of control mechanisms to preserve collective cooperation, that is **Emergence of Government (authorities)**. A new crisis: **Tragedy of authorities**. To maintain cooperation, for the collective well being, is a delicate balance.
- 2) Conflict that in the past served to maintain P-cooperation, may now lead to extinction
- 3) Finally another crisis occurs when growth reaches the boundaries of the environment or the resources.

Looking at the world at present we have all these problems. On the one side the **tragedy of authorities**, when the established powers, do not use the collective efforts for the collective good. **Conflict** may be an extinction-level event. And on the other hand, in many ways (resources and environment), *the paradigm P_Cooperation-Conflict-Growth* is colliding with the boundaries.

This is the evolutionary heritage of Homo Sapiens.

P-Cooperation-conflict-growth

- **A new cultural paradigm is needed** = Cooperation within a single group, the whole human planet. Is that possible?
- Might take another 70000 years of evolution. Can we wait that long?
- **Control by a central government? No success.** Let us look at the particular example of "conflict regulation"
- The paradigm (**P_Cooperation-Conflict-Growth**) implies as first attribute the strong idea of "*national sovereignty*". The mimicry of "A Parliament of Men" of the League of Nations or the UN, collides at the outset with the strongest foundational idea, the *national sovereignty*. So it is an *error of casting*.
- In conclusion: Any measures to deal with the crises that are born from the behavior pattern should not, in the short run, collide with any one of the pillars of the behavior pattern.
- In the paper I discuss a few ideas, but here I will only say:
- **Think about it!**
- Otherwise all we will ever have is a bloody mess.

However

