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Fighting symptom or root cause? - The need for shifting the focus in climate politics from greenhouse gases to environmental protection

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Abstract

Addressing the environmental crisis requires a substantial change of our current lifestyle. Yet, in media coverage and political communication, climate change has taken the lead over other aspects such as biodiversity loss and one may sometimes get the impression that reducing greenhouse gas emissions is fighting the root cause itself. The atmosphere, however, does not respond linearly to our reduction efforts and a certain temperature lock in above preindustrial levels is unavoidable. Because of the lack of an obvious direct benefit in the short term, public support for mitigation measures may diminish rapidly. Accordingly, focusing communication on the need for greenhouse gas reduction may eventually not be useful to induce sustainability transformation of society. We thus argue that there is a need to emphasize climate change mitigation as part of a more holistic practice of nature conservation and environmental protection, rather than an end in itself.

Why do we want to save the planet?

There is broad scientific consensus that anthropogenic climate change and biodiversity loss have reached levels connected to detrimental and potentially catastrophic consequences (Rockström et al., 2009). Yet humanity stumbles in finding solutions to those problems (Ceballos et al., 2015; Emissions Gap Report, 2019), and it has become an important research field to evaluate how societies can be motivated to adapt their lifestyle accordingly (e.g. Abson et al., 2017). In fighting biodiversity loss, nature conservation is an essential tool. Yet, trade-offs are inevitably connected to land use choices. In modern society mankind is sometimes conceived – and may conceive itself - as separate from nature rather than being part of the ecosystem we live in (Ives et al., 2017; Turnhout et al., 2013) and the necessity of nature conservation is not self-explaining. While we increasingly recognize that we are dependent on nature as a supplier of ecosystem services and adjust our protection goals accordingly, this does not necessarily challenge the view, that mankind is the "sovereign" of nature. However, starting from the point that the climate and biodiversity crises require swift and courageous action, and our transformation into a sustainable society is inevitable, the central question of interest may be, how broad democratic acceptance of this transformation may be achieved. Our attitude towards nature, i.e. how we value nature will shape the outcome. Should nature be protected for its own or for human's sake? May we shape the earth so that we humans can thrive in it, independent of other species, or are we obligated to maintain the earth in a way that considers the needs of all species? Does the instrumental value we grant nature suffice in order to deal with the actual environmental crises or is there an intrinsic value of nature that calls for our acting (O'Neill, 1992; Piccolo, 2017)? There is a vital debate in conservation biology and environmental ethics as to whether the concept of anthropocentrism is adequate for environmental protection, or a more ecocentric point of view has to be taken (Kopnina et al., 2018). This discussion focused on biology can be logically extended into the field of climate change, because drivers for climate change and biodiversity loss are often the same. However, is the discussion about intrinsic values and our stance towards nature important in this context? Is our understanding of the reasons for why we want to mitigate climate change important with respect to the chosen mitigation pathway? Unarguably, in the light of increasing water scarcity, extreme weather events and rising sea levels, the anthropocentric dimension of the problem is obvious and needs to be addressed. But is this approach also a useful overall ethical framework to achieve our goals in the long term?

In the following, we exemplify the shortcomings of the mainly anthropocentric approach of current climate politics and argue that a stronger integration into the concept of strong sustainability and nature conservation will be both advantageous and necessary for the successful mitigation of climate change in the long term. One paradigm, this article is based on, is that whenever possible, problem solutions should address the root cause rather than the symptoms.

Greenhouse gases – root cause or symptom?

With the climate crisis slowly coming into focus in the late 1980ies, public focus was increasingly drawn to greenhouse gases, and most prominently, carbon dioxide´s role as a physical driver of climate change. There is no doubt that this discussion was necessary in illustrating the role of human activities

in climatic change. After all, the discussion around the anthropogenic increase of carbon dioxide and its GHG potential has dominated the debate for decades with political agendas strongly influencing the acceptance of the scientific basis (McCright and Dunlap, 2011). From the point of view of European policy makers, this debate seems to be settled, given the announcement of the European Green Deal in 2019. Yet only 78% of Europeans believe in anthropogenic climate change and its dangers with much less of them actually willing to support the necessary actions (Fairbrother et al., 2019). "Non-believers" are often influenced by their individual values and ideologies, rather than their individual educational level or knowledge (Hornsey et al., 2016) and "believers" who are not willing to change their lifestyle might simply put their own wellbeing above the wellbeing of a distant future generation. It follows that a further focus on the dangers of climate change may not be useful to induce the necessary mitigation steps.

We argue that in contrast, the focus on greenhouse gases and most prominently, CO_2 as a prime driver for climate change masked the root cause of the problem. In trying to cover all that is bad through a single GHG, focus was drawn away from the fact that climate change is but one of the consequences of our resource intensive lifestyle. Overexploitation of our natural resources is the reason for both crises, and while acknowledging the grim consequences of a warming world for a variety of ecosystems, the actual current driver of biodiversity loss is human activity in general and not GHG emissions (Maxwell et al., 2016). The links between the biodiversity crisis to the climate crisis sometimes tempt to mistake correlation for causality and while media coverage on climate change is ever increasing, other aspects of environmental protection receive much less attention (Legagneux et al., 2018). Coverage of climate change often focusses on the societal (anthropocentric) dimension rather than the ecological dimensions (Hase et al., 2021). Yet understanding the common cause of the climate crisis and the biodiversity crisis calls for a general change in the way we view and use our resources.

Starting with the period of industrialization – and to some extent even before - elemental cycles of a large number of elements, have become dominantly shaped through human activities (e.g. Sen and Peucker-Ehrenbrink, 2012). The impact of our activities has been acknowledged through the introduction the term Anthropocene (Crutzen, 2006), and the concept is now becoming mainstream as we continue to increase our understanding about how much we shape planet Earth. In a carbon driven economy, our activities are correlated with increasing CO_2 as they are to land use change and resource overexploitation in general, and biodiversity loss specifically. Addressing the common cause of the two crises, decreasing GHG emissions is then one outcome of these changes, not the end in itself. Coal phase-out might serve as example. With coal phase-out being pushed forward in several nations, public focus is on the reduction of GHGs and the effect of the action with respect to the goals of the Paris agreement. It should however not be overlooked that coal combustion has historically been a prominent player in the biodiversity crisis through destruction of ecosystems, through acid rain, being the dominant source of global Hg emissions (Pirrone et al., 2010). It is connected to increased morbidity and mortality though trace metals in general, particulate matter, nitrous and sulphur oxides or PAHs (Finkelman et al., 1999; Munawer, 2018; Prehoda and Pearce, 2017). The environmental risks of coal mine drainage on aquatic biodiversity have been documented in numerous cases (e.g. (Simonin et al., 2021). Land use change related to mining activities such as mountain top removal may be devastating for the affected ecosystems. Negative effects for local communities may be related to land subsidence and the death toll among coal miners themselves has been and in some regions still

is horrendous. Conclusively, notwithstanding the wealth and wellbeing historically generated using coal derived energy, there are now several good reasons for the coal phase out. Accordingly, a holistic approach towards nature conservation and environmental protection may tackle numerous environmental problems at the same time, while a focus on the reduction of GHG, is a focus on symptoms.

The problems around melting glaciers and green growth

There are even more pressing reasons for a stronger integration of climate policy into the concept of nature conservation. Given the relatively short time window in which we may still act in line with the goals of the Paris agreement there is now a relatively broad consensus on our need to act swiftly and courageous. Climate change however stays somehow elusive as a topic and given the non-linearity of GHG reductions and the response of the climate system, this momentum can vanish quickly. No matter what reduction path we will be able to set, there is already some temperature lock-in above preindustrial levels and extreme weather events will happen after atmospheric GHG emissions cease. The picture of melting glaciers might work for now to feed the momentum, it will most likely not do the trick once people realize that they are not coming back even after CO_2 emissions have levelled out (Boers and Rypdal, 2021). Even now the public support on necessary actions such as increasing taxes on fossil fuels, is limited (Fairbrother et al., 2019). Accordingly, one might wonder for how long people are willing to pay for a sustainable transition of society, and how far their willingness for intergenerational justice is going. The European Green Deal is circumventing this problem through the concept of green growth. But there is no general agreement on this concept with literature pointing towards the impossibility of decoupling resource use from gross domestic product on global scale (Hickel and Kallis, 2020), and at least until today net income is still correlated to resource consumption (Figure 1).

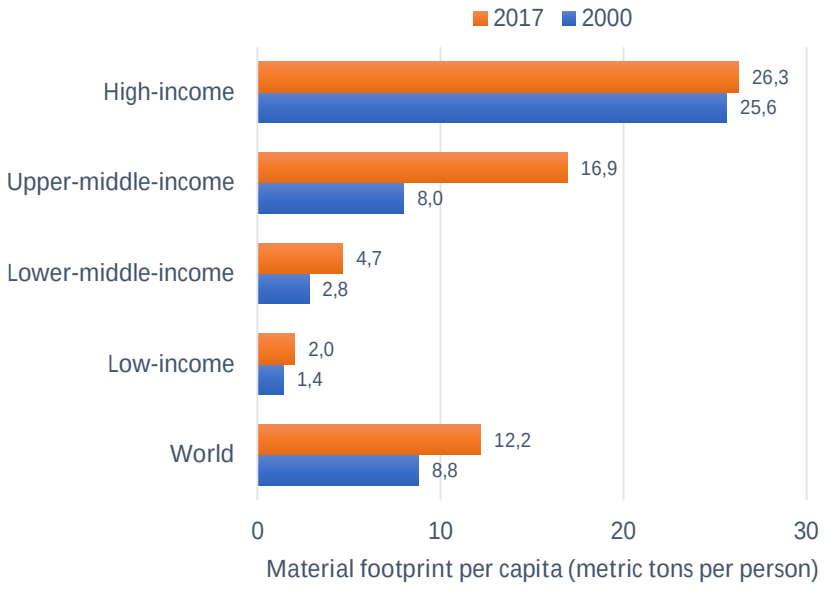

Figure 1: Material footprint per capita in 2000 and 2017. Data derived from https://unstats.un.org/sdgs/report/2019/goal-12/.

Simply shifting the economic activities into the service sector does not necessarily decrease resource consumption (Fix, 2019). Apparently European policy makers are aware of that, and when the European Green Deal is showing ambitious goals with respect to GHG reduction, it becomes much less ambitious when it comes to resource consumption (Bolger et al., 2021). Green growth will have to fit into the broader frame of sustainable development. However, on a global scale there have been concerns about the chance of mitigating climate change in accordance with other Sustainable development goals, and while e.g. SDG 1 "fighting poverty" could be achieved with a limited increase of greenhouse gases, a complete decoupling from GHGs and resources seems unlikely (Bruckner et al., 2022). In this conflict area between social, economic, and ecological requirements of society, one is reminded of the quote environmentalist Edward Abbey once used: "Growth for the sake of growth is the ideology of the cancer cell". Similarly Holden et al. (2017) laid out that sustainable development will ultimately have to put "constraints on human behavior, including constraints on economic activity". Unfortunately, degrowth as the alternative to green growth is not much more than a distant utopia for now. But from an ethical viewpoint it might still be the path to go down (Sandberg et al., 2019) and we should quickly increase our efforts to test to what extend a post growth society could become reality (Hickel et al., 2021). Generally, one might wonder what an ever-growing GDP can be used for, if resource consumption is cut down to environmentally safe limits. Apparently, an ecocentric point of view will have to become sufficiently mainstream so that people are willing to spend their income on things like environmental conservation, low-impact recreational activities and the transformation of the energy sector.

Having in mind the non-linear response of the climate system to our reduction efforts, the melting glaciers and the unrealistic appeal of a resource decoupled growing economy, in the long term a focus on climate change might prove ineffective to feed the sustainability transition. It would need a constant scenario of fear and danger, which is not desirable to society. Already now, the sole idea of the climate crisis is connected to severe mental health problems not only but especially in the young, who often have a detailed understanding of the physical basis and consequences of climate change. Yet they are left helpless, having neither the economic nor the democratic means to do anything against their situation (Gislason et al., 2021; Grauer, 2020; Hickman et al., 2021).

A focus on nature conservation and environmental protection

Anthropocentric approaches are useful when humans benefit directly (Kopnina et al., 2018) but GHG reductions will not provide the desired outcome anymore. Accordingly, an anthropocentric approach may shift from mitigation towards resilience and adaption, ignoring the need for a fundamental change of lifestyle. Accepting the intrinsic value of nature and nature as an end in itself may be a vital component of this lifestyle and it will be necessary if we aim to overcome the constraints, which the concepts of ecosystem service and trade-offs put on nature conservation. Maybe scientists can help in this context. Veríssimo et al., (2014) proposed that jumping the climate change bandwagon whenever possible could be a way increase interest in the biodiversity conservation. However, climate change is not the driver of biodiversity loss and for a large part climate change and biodiversity loss are based on common problems. So maybe it has to be other way round. Researchers focusing on

climate change mitigation should always pay attention to frame their research in a bigger context of nature conservation and environmental protection.

Similarly, in the context of climate politics, addressing the root cause may be useful to help induce the sustainability transformation. This may well happen from an anthropocentric point of view. For instance, the European farm to fork strategy aims in this direction, linking the biodiversity crisis and climate change. In this context there are indications that basing political measures on biodiversity loss in addition to the climate change mitigation argument may increase acceptance of dietary changes (de Boer and Aiking, 2021). And when Sapiains et al. (2016) investigated, how the need for consumption reduction may be accepted by people who reject the anthropogenic cause of global warming, they showed that framing an environmentally friendly lifestyle in general to culture and identity is promising, arguing for a more holistic approach in climate change politics. We may thus be better suited to combat the environmental crisis through connecting biodiversity, landscape, and an environmentally friendly lifestyle in general to cultural value, than through pursuing a fear based climate policy.

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