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An indivisible set of sustainability goals: SDGs in research and education at UGent

Thomas Block - September 3, 2020

The United Nations Sustainable Development Goals (SDGs) are increasingly being used as an overarching framework to embed sustainability thinking into the operations of governments and other organisations. These global goals contain 17 main objectives with 2030 as their time horizon. Although the SDGs carry a certain potential for change, in practice we notice numerous pitfalls that make this instrument seem to serve mainly the status quo. Therefore, it is essential that we, as UGent, try to position ourselves in this debate from a critical, yet constructive perspective. Before outlining how we, as a university, can deal with the SDGs, we will, for a good understanding of our proposal, first dwell on the basic components of sustainable development and on some broad sustainability perspectives. This contribution attempts to lay the foundations for a UGent vision. We conclude with some general tips for researchers and teachers who want to use the SDGs in their research or teaching.

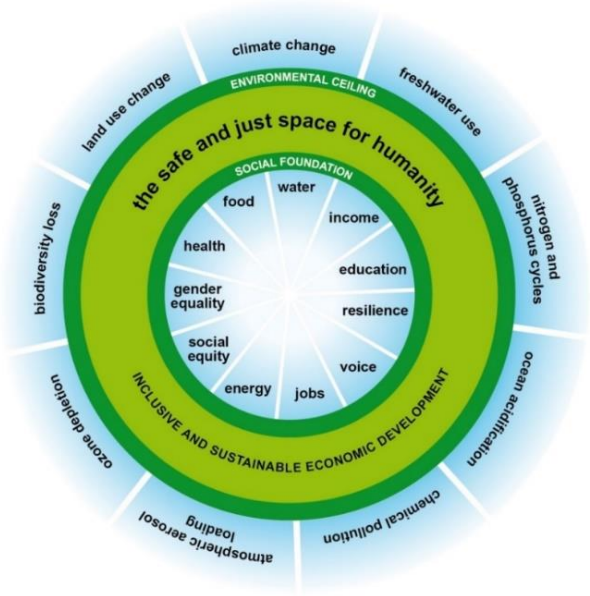
1. SUSTAINABLE DEVELOPMENT

Sustainability: living well between an ecological ceiling and a social base

There are many discussions about both the framing of a specific sustainability problem and the best solution strategy. However, this does not mean that sustainability is a purely arbitrary or relativistic concept. After all, we cannot avoid some fairly generally accepted basic principles, namely intra- and intergenerational justice and respect for the planetary boundaries of the earth. Or, to put it in less costly terms, it is about living well in a society that treats all people fairly and stays within ecological limits[1] .

The premise that we need to address ecological and social challenges together when addressing sustainability issues is expressed in an accessible way in the now influential figure of Kate Raworth's donut economy[2] (see below). Sustainable societies flourish in the donut economy between an environmental ceiling and a social foundation.

The environmental ceiling refers to Rockström's planetary boudnaries of 9 biophysical systems (climate change, biodiversity loss, land use change, nitrogen and phosphorus cycles, chemical pollution, ozone depletion, ocean acidification, freshwater use, atmospheric aerosol loading) that must remain within an ecologically safe zone for humanity to avoid catastrophic changes to our living system[3]. In other words, the planetary boundaries of our earth may not be exceeded. A current analysis according to this framework shows that four of the nine planetary boundaries have already been exceeded by human activities: climate change, loss of biodiversity, land use change, change in nitrogen and phosphorus cycles[4]. The social foudnation states that everyone should have access to basic necessities such as food and water, health care, education, work and income, and energy. Although at a global level the number of people living in extreme poverty has decreased in comparison to 1990, too many people still cannot or can barely provide for these necessities[5]. Many authors also point to growing inequality and show that income inequality has increased in recent decades in almost all parts of the world[6].



A donut economy between an ecological ceiling and a social base (Raworth 2017)

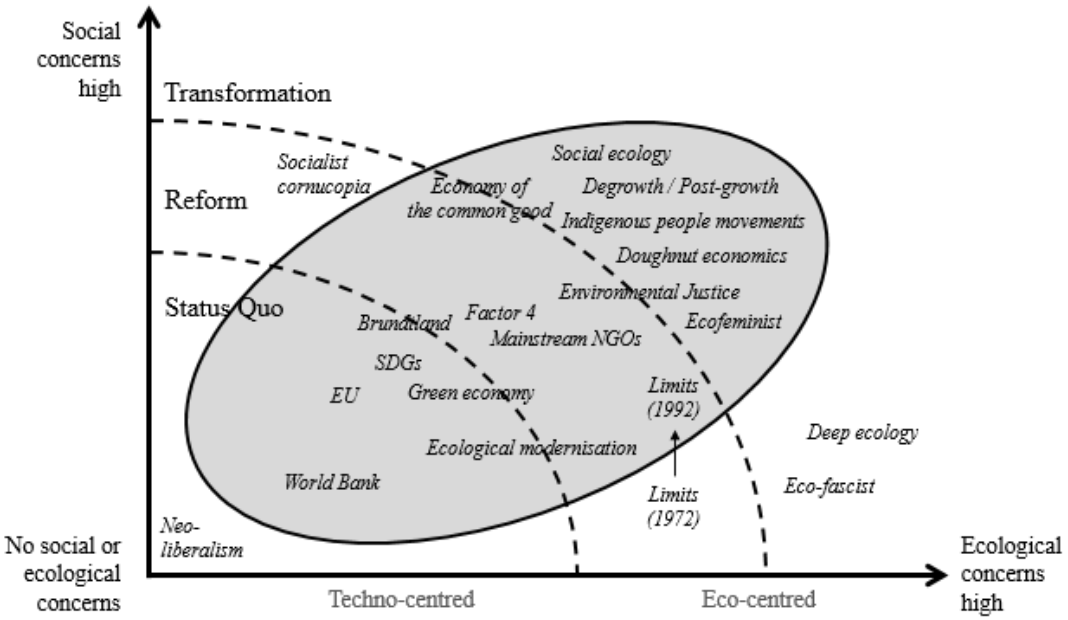
According to Raworth's model, an economy is prosperous and human societies can develop in an ecologically safe and socially just space if the elements of the social foundation are met without exceeding the environmental ceiling.

However, the link between ecological and social concerns is not always made. In industrialized countries, the concept of 'sustainability' is usually too narrowly defined, and the focus is often on (technological solutions to) environmental problems. Approaches such as Raworth's donut economy stimulate to focus on both social and ecological challenges within a discussion about the ambitions of a sustainability initiative.

Challenge: acknowledge multiple perspectives

Of course, we must be aware that the above general description consists mainly of broad normative concepts without unambiguous definitions and concrete translations. What exactly is fair? When is the carrying capacity of the earth exceeded? In general, there are several interpretations of this, with everyone trying to introduce a logic or discourse that satisfies their own assumptions and interests. The sustainability debate can therefore be depicted on a continuum that evolves from so-called status quo approaches over reformist approaches to transformative approaches[7] . We would like to briefly explain each approach in an ideal-typical manner.

Status quo approaches argue that sustainable development can be achieved within existing political structures and within the dominant economic growth models. Within these logics, growth provides necessary innovations that result in strong technological solutions to ecological problems. In order to reduce social problems, a trickle-down effect of economic growth is expected: growth must be stimulated so that eventually everyone will benefit. The challenge then is to find the right combination of eco-efficient technologies in which the (free) market, supported by a facilitating government, is seen as the ideal means to realize a transition towards a sustainable future[8] . This fairly common win-win approach is also referred to as 'ecological modernisation' or 'green economy'.



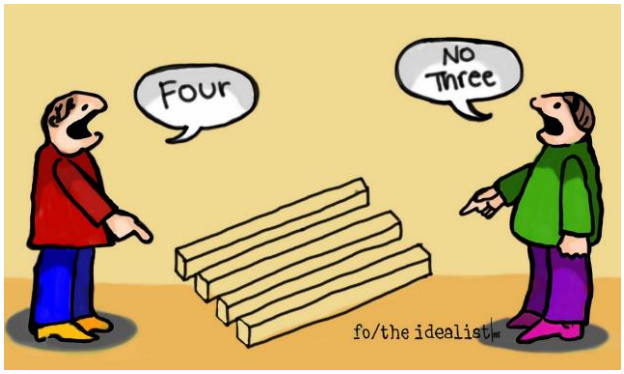
Multiple sustainability interpretations [9]

Reform approaches are based on the idea that sustainability problems can be solved within the existing political and economic structures, but they are much more critical and require thorough adaptations of policy, the economy and our consumption and production patterns. Governments have a key role to play here. In the environmental field, they can make agreements and take measures for the internalisation of environmental costs, the development of emission trading systems, offering the best opportunities for green technologies, the development of global monitoring systems, etc. On the social level, this approach focuses on redistribution issues and on an equitable distribution of costs and benefits, for example through policies that create employment and programmes to combat poverty.

The starting point of transformative approaches is that socio-ecological problems arise from the existing power and economic structures and that solutions must therefore be sought in radical alternatives to so-called industrial capitalism and neo-liberalism. The role of eco-efficient technologies is not underestimated, but the unequal distribution of profits and the exponential increase in our use of energy, raw materials, water and fertilisers are strongly pointed out[10]. The main reason cited is that greater efficiency in raw material and energy use is outweighed by economic growth[11]. Hence, according to proponents of transformative approaches, there is also a need for strategies that focus on sufficiency, redistribution and decommodification[12]. At the same time, they argue that the hoped-for economic trickle-down effect does not appear to be manifest. As mentioned above, inequality has in fact increased over the last few decades. That is why proponents of 'degrowth' or post-growth argue for, amongst other things, a reduction in working hours, redistribution by means of a basic and maximum income, the greening of taxation, the cessation of subsidy flows and investments in unsustainable activities (such as fossil fuels), support for alternative and solidary initiatives, and new indicators for economic progress[13]. Supporters of the 'Environmental Justice Movement', on the other hand, emphasise a power struggle: who controls natural capital and derives the greatest benefits from ecosystem services (environmental use) and who bears the burden of environmental pollution and ecosystem degradation (environmental costs)? The ideas of this movement are seen as one of the first paradigms in which the environment is strongly linked in one framework to ethnicity, class, gender and social justice[14].

Stimulating a valuable and values-based debate with an immodest modesty

The presence of different perspectives often makes it difficult to speak of objectively correct answers to complex sustainability issues. After all, each perspective contains concerns, interests, assumptions and choices, and thus necessarily also blind spots. Solution paths are always context-sensitive. Time and again, interesting constructions are made - also in the scientific field - in which, building on robust scientific knowledge, in both the definition and the operationalisation, several normative choices (must) be made. It is then a matter of acknowledging or seeing in which context or setting which concerns and interests are taken into account and which blind spots (consciously or unconsciously) are admitted[15]. In this sense, facts are always indebted to the research perspective from which they emerge and must be interpreted against that background. As a supporter of whatever perspective, it is therefore desirable to show a certain modesty and less scientific arrogance. In this context, Pielke refers to the scientist as an *honest broker*, a 'knowledge broker' who openly presents his normative and methodological starting points and his findings[16].



Such modesty, however, may by no means lead to an 'anything goes' relativism or to a paralysing resignation. On the contrary, precisely because knowledge about a complex sustainability issue is partly normative and political, we must dare to engage normatively and politically with such issues, also in the academic world. As an academic you are, in other words, invited to take a certain responsibility towards the issue you teach or study, and to defend the choices you make from a strong social commitment as well. In this sense, we can somewhat speak of immodest modesty[17]. Recognising this normative room for manoeuvre and positioning oneself within it with conviction and proportion can thus be an essential part of the essence of a scientist.

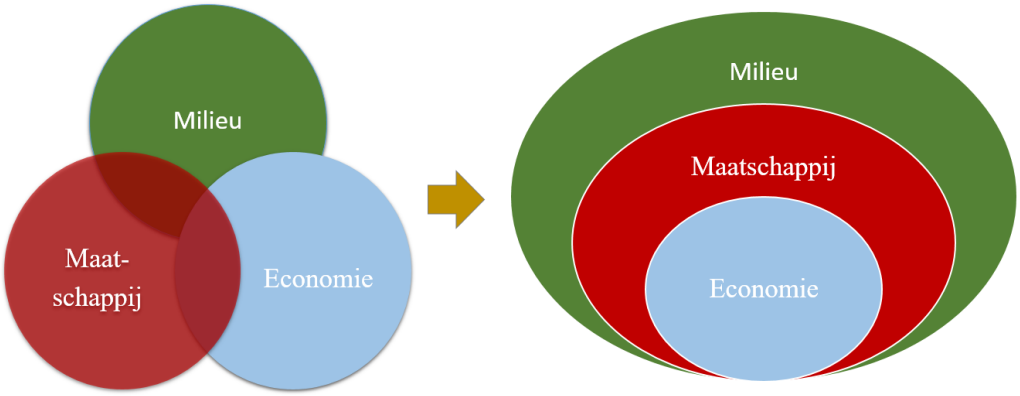
The lack of solidified, generally accepted definitions and strategies may at first sight be seen as problematic, but when we embrace this partially 'liquid' fact, room is immediately created for a fascinating societal debate, both about relevant scientific knowledge and about normative images of the future. It has already been emphasised that the context must be respected, but the debate must also allow for discussion of fundamental choices: what does it mean to live well within an ecologically safe and socially just space? What kind of world do we want to live in? And of course: how and in what direction should our university evolve?

Nested model and the position of the economic dimension

As a prelude to a critical but constructive perspective on the SDGs, and building on the aforementioned explanation of the doughnut economy and the demand for immodesty, we conclude this introductory section with a plea to visually represent sustainable development in a more radical way. After all, we should not underestimate the power of images. Crucial here is the position of the economy or the economic dimension.

A dominant visual representation of sustainability can be found in the so-called 'Triple P Model' which summarises the dimensions of sustainable development as 'People, Planet & Profit'. This often translates into the iconic figure (see figure below - left) in which the pursuit of a sustainable society is represented as a balance between the social, environmental and economic objectives of sustainability. The precise relationship between the three pillars is the subject of debate. In theory, we can still understand this representation, but because in practice the economic pillar gains the upper hand and becomes an end in itself, we place this model among the status quo approaches, i.e. rather a weak interpretation of sustainability. The win-win logic that

dominates here ignores the existing relationship between economic growth on the one hand, and on the other hand the transgression of planetary boundaries and increasing inequality.



Iconic figures of weak (left) and strong (right) sustainability

We advocate the use of a nested model to visually represent the essence of sustainable development (see figure above - right). This hierarchical representation fits within a strong interpretation of sustainable development, is in line with Raworth's donut economy and starts from the idea that an economy should serve a socially just society and that the carrying capacity of the earth should not be exceeded. Determining what the ecologically sustainable boundaries are, how we can define quality of life and what an acceptable distribution of resources between people is, is always subject to scientific and social debate. This nested model forms the basis for our perspective on the SDGs.

2. SDG'S: AN INDIVISIBLE SET OF SUSTAINABLE DEVELOPMENT GOALS

United Nations (UN) sets a broad and shared sustainability agenda

An important political outcome of recent UN processes on sustainable development are the Sustainable Development Goals (SDGs)[18]. The negotiations on the SDGs were launched during the UN Conference on Sustainable Development 'Rio+20' in 2012 and led to the formulation of 17 global sustainability goals in 2015. These 17 SDGs, which are linked to 169 targets, form an action plan to reduce poverty by 2030 and to push the planet in a sustainable direction. Both social and ecological concerns are therefore in the foreground. The SDGs and the 169 targets must be considered as a global impetus; the member states are encouraged to ensure refinement themselves.

The development of the SDGs can be seen as a major global diplomatic success and we should not underestimate the added value of an internationally shared agenda. It is also important that they contain a broad spectrum of goals, both focused on hunger, well-being and health, gender, education, inequality, culture, peace, governance, etc. and on climate, water quality, sustainable energy, etc. That European institutions, and recently also the Flemish Government, have put forward the 17 SDGs as one of the leading models is therefore to be applauded. At the same time, it is at least equally important to point out some pitfalls that may cause the role and impact of the SDGs to be at best modest and at worst counterproductive[19].

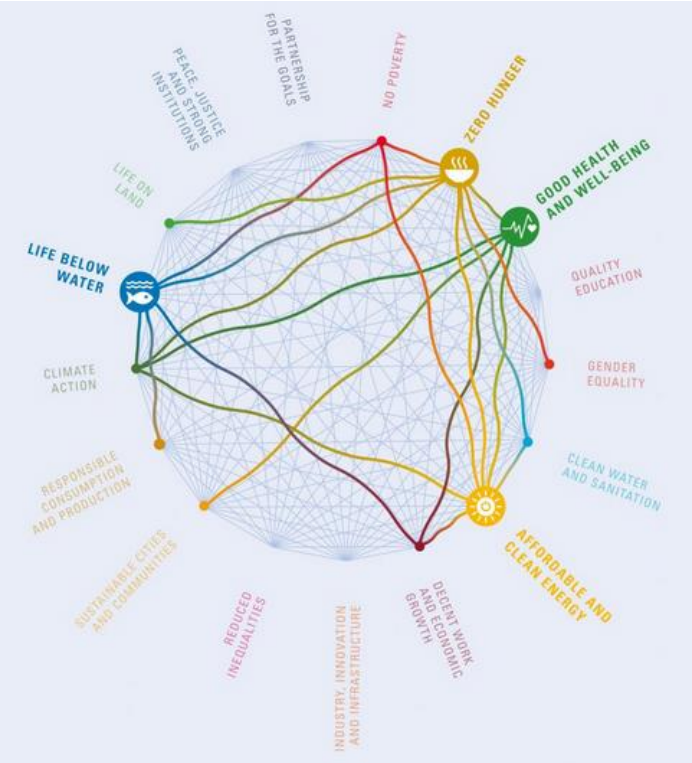
Cherry picking and other pitfalls

In practice, the SDGs (and the whole logic behind this model) leave a lot of room for pretending to work on sustainability. For example, smaller actors (e.g. companies and NGOs) too often only bring SDGs into the picture that are already central to their own operations ('cherry picking'), and larger actors (e.g. governments and universities) simply stick SDG labels on all current initiatives. Each time, real transformations of structures, cultures and practices seem to be absent. SDGs therefore lend themselves perfectly to a top-down, linear management thinking in which goal-means confusion will dominate after a while. The colourful SDG icons then pop up more and more, while the crucial goals and necessary changes fade into the background. Moreover, the non-binding nature of the SDGs means that they are not very legally enforceable. That is why the SDGs are all too often classified under the status quo approaches.

That SDGs are seen as a status quo approach also stems from the SDG index that was recently developed[20]. It is striking that only rich Western countries score very high and that in this sense the SDGs mainly serve the logics and interests of powerful actors. This is in contrast to other indexes such as the Happy Planet Index and the Sustainable Development Index in which Western countries generally score lower than some countries in Latin America and Asia[21]. Given the ecological and social challenges, we may question the transition paths outlined by the UN. Still more pursuit of economic growth? More exploitation of both nature and the Global South? Even more belief in purely technological solutions? Although in theory the SDGs have a certain potential, in practice the open and broad character of the SDGs risks making for soft and weak interpretations of sustainability.

SDGs: a network of goals

We strongly recommend avoiding 'cherry picking' and simply 'ticking off' one or a few SDGs. More so, in our research, teaching and own operation, we need to recognise that and study how the SDGs are related to each other and complexly interact. SDGs are an indivisible whole[22]. Consequently, mapping the interactions better and learning to understand them are important research goals. More concretely, we are thinking of the following questions: how, to what extent and over which period does an action within one SDG generate a positive or negative effect on other SDGs? For example, a UN study shows that SDG 12 'Responsible consumption and production' has connections with no less than 14 other SDGs[23]. And as already suggested in this text, SDG 8 'Decent work and economic growth' should not be pursued separately. Indeed, many authors rightly point out the contradiction between, on the one hand, SDGs with a focus on ecological concerns, and on the other hand, a continuous pursuit of global economic growth with 3% per year[24] and 7% in developing countries as stipulated in SDG 8. It is therefore requested that this linkage be respected in solution strategies and policies. A comprehensive report mapping the interactions between SDGs was published in 2017 by the International Council for Science[25]. The four SDGs that show the most synergies with other SDGs (as well as 'trade offs') were analysed in depth (see figure opposite): SDG 2 (Zero hunger), SDG 3 (Good health and well-being), SDG 7 (Affordable and clean energy) and SDG 14 (Live below water).



Nested model provides SDG cake

The figure above showing the 17 SDGs in 3 rows seems to ignore the complex interactions between the SDGs. The 17 SDGs are simply put side by side, everything is presented as equally important. And when everything is labelled as 'strategic', there may not be a strategy at all. That is why we argue for creating relief again and again, using the logics of the donut economy and the nested sustainability model outlined above. Some authors suggest that the SDGs be presented as a large wedding cake (see figure below)[26]. This makes it immediately clear that ecological, social and economic challenges must be viewed in conjunction.

SDG wedding cake model [27]

This performance thus also points out the importance of approaching sustainability issues (1) from a systemic and socio-technical perspective and (2) in an inter- and transdisciplinary manner. This is reflected when, for example, we want to introduce innovative environmental technology into society in a socially just way and actually pursue a transition. We have learned from the transition literature, among others, that system change cannot and must not be approached purely from the point of view of technology (e.g. cars, smart grids, nuclear power stations, GMOs, etc.), but that technology is always embedded in social institutions, cultures and everyday practices. Understanding or striving for change here, too, requires an analysis of many elements that often interact in a capricious manner: technology and infrastructures, cultures and values, habits and routines, markets and financial models, policies and rules, etc. Consequently, it is necessary from the outset to stimulate strong cooperation between all kinds of experts and to apply several types of knowledge. Not only should we think about problem definitions and possible solutions from multiple theoretical and analytical perspectives, but non-academic actors should also be equally involved (e.g. governments, businesses, NGOs, etc.). Such inter- and transdisciplinarity is extremely fascinating, but getting to know each other's assumptions, theories and analytical frameworks usually takes a long time.

To conclude and summarize: 7 concrete 'tips & tricks

1) Please read this text in full anyway (if not, the below may be too insubstantial).

2) Always try to make the link between ecological and social concerns as well as possible.

3) Be immodestly modest: acknowledge your blind spots within a context-sensitive approach to a sustainability issue and dare to show a strong commitment (beyond business-as-usual and using the nested model as a visual representation).
4) Recognize that the prevailing SDG philosophy connects mainly to not very transformative sustainability strategies. A commitment to sustainability also benefits from other frameworks, interpretations and strategies.

5) When using SDGs, avoid 'cherry picking' as well as simply sticking colourful SDG icons on all sorts of existing initiatives.

6) Recognize that the SDGs are an indivisible whole and study how one or more SDGs relate to each other and complexlyinteract. What are possible positive effects (synergies) or negative effects (trade offs) in the short and long term.

7) Use a systemic and socio-technical perspective to analyse and pursue a sustainability transition. And thus strive for an inter- and transdisciplinary collaboration.

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