

The UN Sustainable Development Goals and the dynamics of well-being

The UN Sustainable Development Goals (SDGs) are a detailed dashboard of goals and targets agreed to by all 193 UN member countries. The 17 SDGs and associated 169 targets represent a global consensus, years in the making. They are an important step in the transition to a sustainable world because they open the door for much needed additional work. To achieve the SDGs, policy makers, scientists, and practitioners will have to clarify how the goals and targets interconnect, including trade-offs and synergies, and develop three additional elements: (1) an aggregation of metrics of human and ecosystem well-being, (2) dynamic models of the integrated system of humans and the natural world, and (3) innovative ways to build broad public consensus on the future we want – the details of a world in which the SDGs have been implemented.

We need aggregate metrics of human and ecosystem well-being to replace growth in gross domestic product (GDP) as the primary development goal for nations (<http://thesolutionsjournal.com/node/237220>). One could argue that aggregating targets for the individual SDGs is not necessary (or possible) and that the pursuit of the individual goals is sufficient to achieve sustainable development. This might be true if the goals were independent of each other and they all contributed to the overarching objective equally. In reality, however, there are multiple interconnections and clear trade-offs and synergies across and within the goals, especially in how the environmental, social, and economic goals and targets interact. For example, the recent single-minded focus on GDP growth has exacerbated inequality and environmental damage in many countries. If one takes these elements into account, as the Genuine Progress Indicator (GPI) does, then there arguably has been no net progress globally for decades (Kubiszewski *et al.* 2013; *Ecol Econ* 93: 57–68). Increasing income inequality, environmental damage, and other costs can cancel out positive gains from GDP growth. The new metrics should therefore incorporate insights from ecology and psychology to describe how natural, social, human, and built capital assets interact to contribute to sustainable well-being, based on the idea that the best system is one that achieves the overarching goal of a world that is simultaneously prosperous, equitably shared, and ecologically sustainable. There is compelling new research relating ecosystem services and natural and social capital to human well-being, which can be integrated with GPI to produce an expanded version that connects more directly with the SDGs. Nevertheless, this will not be enough on its own.

GDP has been successful in part because it is linked to the overall System of National Accounts (SNA), which is based on a static, linear, input–output model of the market economy. Although this approach was the best available when the SNA and GDP were developed in the 1930s and 1940s, we now know more about how complex, dynamic systems involving interacting human and natural systems function. Accordingly, we need to replace the static, linear model with more dynamic, integrated, natural and human system models that incorporate the dynamics of stocks, flows, trade-offs, and synergies among the full range of variables that affect the SDGs and human and ecosystem well-being.

Finally, we need to explore and develop innovative methods to build broad consensus around the characteristics of desirable futures – the kind of world that would result if all the SDGs were achieved. This can be accomplished through the integration of scenario-planning exercises, extended to include public opinion surveys, with the metrics and modelling mentioned above. Scenario planning has been used successfully in a range of contexts. However, it can be extended to survey the public about which alternative futures they prefer (Costanza *et al.* 2015; *J Futures Studies* 19: 49–76). We also require better methods to communicate the complex trade-offs that each future scenario entails, including videos, movies, virtual reality, and other methods to fully engage people in understanding alternative futures and building consensus on the future that we want.

The SDGs represent a major potential turning point in the future of humanity. For the first time in recorded history we have a set of goals and targets agreed upon by all UN countries, which include the full range of factors that contribute to equitable and sustainable well-being. We must not squander this opportunity to change the trajectory of humanity toward a more sustainable future.



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