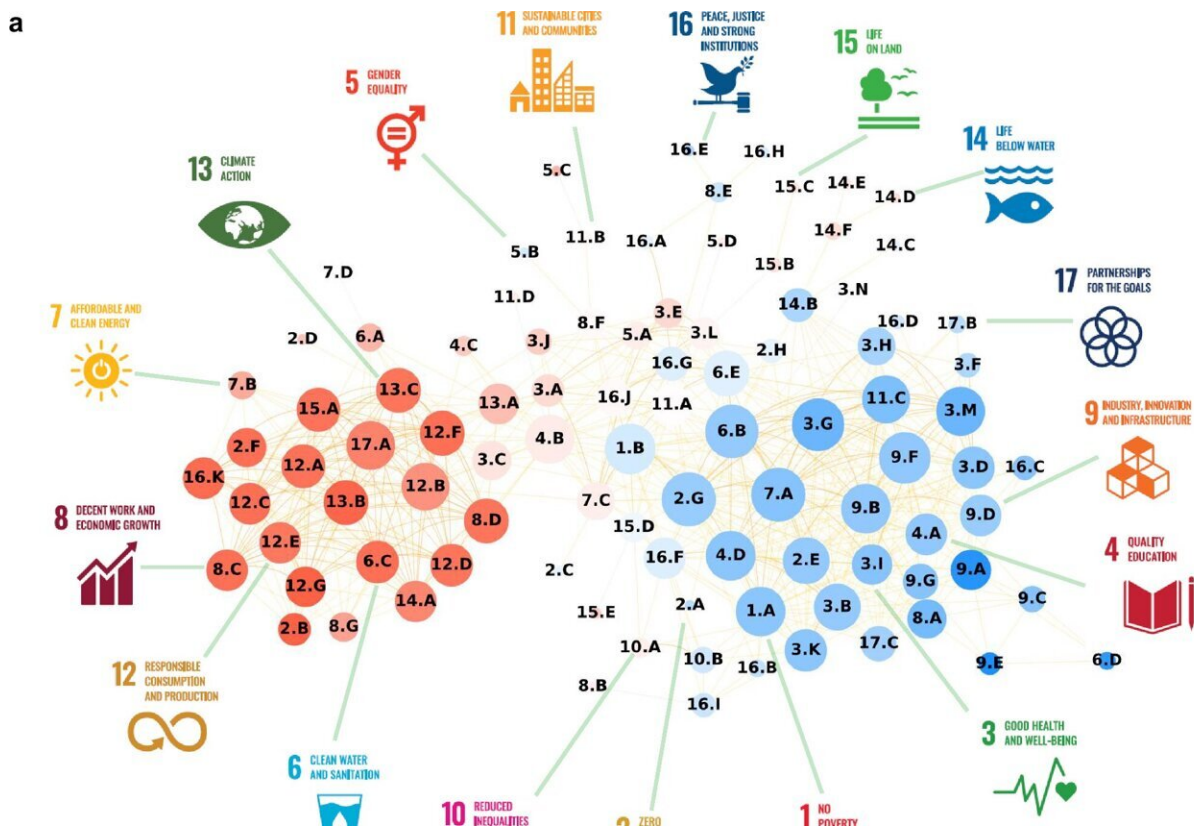


Global study finds dramatic disparities in progress toward Sustainable Development Goals

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The SDG space in 2022. Credit: *Nature Communications* (2025). DOI: 10.1038/s41467-025-56076-6

The Sustainable Development Goals (SDGs) constitute the leading global

framework for achieving human progress, economic prosperity, and planetary health. This framework emphasizes issues such as public health, education for all, gender equality, zero hunger, adoption of clean and renewable energy, and biodiversity conservation. Yet, despite this comprehensive agenda, questions remain about how different nations navigate their own paths toward these goals.

A recent study, published in [Nature Communications](#) provides insights into the trajectories of 166 countries as they have worked toward the SDGs over the past two decades.

By applying [network analysis](#) and the Product Space methodology, commonly used in the field of complexity economics, the researchers constructed the "SDG Space of Nations." The elaborate model shows that countries do not simply march in lockstep toward sustainable development; instead, they cluster into distinctive groups, each with its own strengths and specializations, sometimes quite unexpected.

These clusters bring to light both the immense complexity and the subtle regularities that characterize the global pursuit of the SDGs.

The data also suggest that national priorities shift over time; as the overall socioeconomic condition improves, countries change course and pursue different objectives, reflecting evolving policy priorities and development goals.

"We sought to understand the distinct pathways, patterns, and preferences nations have followed in pursuing sustainable development," says Dr. Asaf Tzachor from Reichman University's School of Sustainability, one of the study's leading authors. "In the process, we found shifting national priorities over the past 20 years, as well as areas of chronic neglect, where action is urgently needed. Using network analysis, we further identified each country's comparative advantages

and disadvantages across the main pillars of sustainable development."

One significant finding of this research is the presence of "orphaned" SDG indicators—those that remain neglected by certain groups of countries. These gaps, primarily related to [environmental quality](#), [carbon emissions](#), biodiversity loss, or the impacts of malnutrition, represent urgent areas where targeted action is needed.

For instance, nations like Ethiopia and India need to focus on basic sanitation and biodiversity, respectively. Meanwhile, countries like China and the United States face challenges related to greenhouse gas emissions, and malnutrition (especially, overnutrition).

By examining each country's comparative advantages and disadvantages through the lens of network analysis, the study provides a detailed understanding of what holds countries back and where they might redouble their efforts to achieve balanced, inclusive progress.

"Understanding these disparities is crucial for country and global progress," says Dr. Tzachor. "By identifying where countries are underperforming, we can tailor development policies to address these gaps effectively."

The study emphasizes the need for a comprehensive review of the SDG framework as the 2030 deadline approaches. It calls for international cooperation to ensure that no area—and no community—is left behind in the pursuit of sustainable development.

More information: Fengmei Ma et al, The disparities and development trajectories of nations in achieving the sustainable development goals, *Nature Communications* (2025). [DOI: 10.1038/s41467-025-56076-6](https://doi.org/10.1038/s41467-025-56076-6)

Provided by Reichman University

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