Navigating the Anthropocene: Improving Earth System Governance


Science assessments indicate that human activities are moving several of Earth’s sub-systems outside the range of natural variability typical for the previous 500,000 years (1, 2). Human societies must now change course and steer away from critical tipping points in the Earth system that might lead to rapid and irreversible change (3). This requires fundamental reorientation and restructuring of national and international institutions toward more effective Earth system governance and planetary stewardship.

We propose building blocks of such a new institutional framework, based on a comprehensive assessment conducted in 2011 by the Earth System Governance Project, a 10-year social science–based research program under the auspices of the International Human Dimensions Programme on Global Environmental Change (IHDP) (4, 5). The assessment has been designed to contribute to the 2012 United Nations (UN) Conference on Sustainable Development in Rio de Janeiro, which will focus on the institutional framework for sustainable development and possible reforms of the intergovernmental governance system.

The assessment revealed remaining differences of opinion among social scientists, as well as an increasing consensus in many areas. As a general conclusion, our work indicated that incremental change (6)—the main approach since the 1972 Stockholm Conference on the Human Environment—is no longer sufficient to bring about societal change at the level and with the speed needed to mitigate and adapt to Earth system transformation. Structural change in global governance is needed, both inside and outside the UN system and involving both public and private actors.

To this end, decision-makers must seize the opportunity in Rio to develop a clear and ambitious roadmap for institutional change and effective sustainability governance within the next decade. Seven reform measures are urgently required as a first step.

Seven Building Blocks

First, the environmental agencies and programs of the United Nations must be reformed and/or upgraded (7). Many reform proposals have been submitted in recent decades. Some of the more radical proposals—such as an international agency that centralizes and integrates existing intergovernmental organizations and regimes—are unlikely to be implemented and would yield uncertain gains. However, most of us are unlikely to be implemented and would yield uncertain gains. However, most of us


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Published by AAAS

Downloaded from http://science.sciencemag.org/ on May 30, 2018

The United Nations conference in Rio de Janeiro in June is an important opportunity to improve the institutional framework for sustainable development.
that is needed toward sustainability. Changes in the behavior of citizens, new engagement of civil society organizations, and reorientation of the private sector toward a green economy, are all crucial to achieve progress. Yet, in order for local and national action to be effective, the global institutional framework must be supportive and well designed. We propose a first set of much-needed reforms for effective Earth system governance and planetary stewardship. The 2012 Rio Conference offers an opportunity and a crucial test of whether political will exists to bring about these urgently needed changes.

References and Notes
6. Incremental change refers to minor reforms that attempt to increase efficiency and effectiveness of governance without fundamentally altering decision-making rules, basic organizational arrangements, funding levels, or legal commitments, among others.
16. Weighted voting implies a departure from the traditional intergovernmental approach of “one-country-one-vote,” which gives equal weight to all countries regardless of, e.g., their population size. Our proposal of special voting rights for the Group of 20 in the UN Sustainable Development Council is one example. Another example is the double-weighted majority voting in the treaties on stratospheric ozone depletion, which accept majority decisions in certain areas as long as they include the majority of all developing countries and the majority of industrialized countries.
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Science 335 (6074), 1306-1307.
DOI: 10.1126/science.1217255