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UNsustainable?

NEXT WEEK, THOUSANDS OF PARTICIPANTS FROM GOVERNMENTS, THE PRIVATE SECTOR, NON-governmental organizations, and other stakeholders will gather in Brazil at a United Nations (UN) summit to secure political and economic commitments for sustainable development and to address new and emerging challenges. These objectives recall the 1992 UN Conference on Environment and Development, also held in Rio de Janeiro. Although political progress toward these goals has stagnated, in the intervening 20 years science and technology have moved on. The “Rio+20” meeting should be framed by these new developments.

Three notable global changes should affect the summit outcome. The most obvious is the degree of interconnectedness among nations, which would have been unimaginable in 1992. Today’s global society is linked culturally, socially, and economically. Highly interconnected systems can confer remarkable stability, but they are prone to abrupt change, as shown by the global financial crisis and recent food security issues. We need to consider how to minimize such systemic risks.

Another shift has been the concept of the “Anthropocene,” popularized in 2000 by the atmospheric chemist and Nobel Laureate Paul Crutzen and others who have recognized the substantial influence of human behavior on the Earth system. The word, defining a new geological epoch, symbolizes the idea that humanity has become a key driver of the Earth system, even perhaps pushing it beyond several planetary boundaries such as radiative forcing and biodiversity loss. It heralds a profound change in perspective that goes beyond geological nomenclature and into political, cultural, and economic spheres. The idea of the Anthropocene requires that nations reevaluate their relationship with the planet and each other to ensure the prosperity of current and future generations. Next week’s summit must be seen against this backdrop.

The third change in the past 20 years has been geopolitical. Emerging economies such as Brazil, China, and India are growing into economic powerhouses that are critical to the future global sustainability agenda. Brazil has undergone vast transformations since hosting the Rio 1992 Summit. It has exceeded most UN Millennium Development Goals, including lifting 40 million people out of poverty. Amazon deforestation has declined by 77% in 7 years, and over 25% of the territory is protected as Conservation Units or Indian Reservations. If Brazil meets its voluntary targets on greenhouse gases, emissions will fall by 10 to 12% by 2020 as compared with 2005. 45% of Brazil’s energy is renewable, such as hydropower and biofuels. But there has been slower progress in achieving universal sanitation and sustainable urban development and in reducing the environmental impact of large-scale agriculture.

On the table at Rio+20 are several building blocks that together could create momentum for a global transformation. Universal sustainable development goals should encompass social, economic, and environmental outcomes, underpinned by quantitative targets and indicators. A Sustainable Development Council with a direct mandate from the UN General Assembly could promote progress on goals. And regular analyses of emergent global sustainability must be coupled with a more coherent and strategic approach to evidence-based policy internationally. Future Earth, a 10-year international research program focusing on global sustainability solutions, is already planned. These efforts could be further strengthened by the oversight of a new office of Chief Scientific Advisor to the UN Secretary-General, which would help ensure that these actions together provide the start of a strong global innovation system.

In March 2012, the international research community convened the London Planet Under Pressure conference and released the State of the Planet Declaration (www.planetunderpressure2012.net), emphasizing that the risks to Earth’s natural processes and our globally interconnected society are too great to ignore. Rio+20 should act as a catalyst for a sustainable development agenda that emphasizes holistic, equitable, and farsighted approaches to decision-making. Urgently needed is courageous leadership that commits to a long-term vision for our planet and its people.

– Carlos A. Nobre

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