

Dealing with Complex Human-Nature System of Systems: Can We Solve One Problem without Creating New Ones?

Abstract

Coupled human-nature system of systems is characterized by uncertainty, limited predictability, bounded rationality, indeterminate causality, and evolutionary change. To determine the impact of a specific policy intervention, an integrated analysis approach is needed that provides a holistic view of complex interactions within such system of systems. In this talk, Kaveh Madani highlights some of the major challenges of modeling and managing complex systems to argue why we often fail to develop comprehensive technological and policy solutions that can solve one problem without creating new ones.

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Bio

Kaveh Madani is an environmental scientist, educator, and activist, working at the interface of science, policy, and society. He has previously served as the Deputy Vice President of Iran in his position as the Deputy Head of Iran's Department of Environment, the Vice President of the UN Environment Assembly Bureau, and Chief of Iran's Department of Environment's International Affairs and Conventions Center. He is currently a Henry Hart Rice Senior Fellow at the MacMillan Center for International and Area Studies of Yale University and a Visiting Professor at the Centre for Environmental Policy (CEP) of Imperial College London. He has received a number of awards for his research, teaching, as well as outreach and humanitarian activities, including the New Faces of Civil Engineering recognition in 2012, the Arne Richter Award for Outstanding Young Scientists in 2016, and the Walter Huber Civil Engineering Research Prize in 2017.