

# Social-ecological Regime Shifts: Collapse, Traps, and Transformations

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## Abstract

Humanity's alteration of the major biological and physical processes of the Earth is producing a more turbulent world. The unintended consequences of these changes threaten human well-being by decreasing and destabilizing supplies of ecosystem services - the benefits people receive from nature. Social and ecological dynamics can interact to produce unwanted or desired reorganizations of ecosystem services, but there is currently little understanding of the general patterns in the causes or consequences of these social-ecological regime shifts.

At the Stockholm Resilience Centre my colleagues and I have developing a database of social-ecological regime shifts ([www.regimeshifts.org](http://www.regimeshifts.org)). We have refined and extended the regime shift framework to a variety of large, abrupt, persistent social-ecological that have not traditionally been described as regime shifts, for example, conversion of forest to cropland, or transformations in ecosystem management practices.

In this talk I introduce the concept of social-ecological regime shifts, the typology we have developed for operationally identifying different types of regime shift, and present a few examples of such regime shifts. I will then discuss preliminary results of our comparative analyses. These patterns include which drivers dominate these shifts, which internal feedbacks provide resilience, and where are opportunities for local or regional actors to enhance the resilience of a regime, or alternatively destabilize and reduce the resilience of undesired regimes, particularly in the context of poverty alleviation.

**Keywords:** regime shift; social-ecological systems; ecosystem services; global change; traps