



Crises without borders

Can we anticipate and manage cascading ecological crises that cross borders and impact the global system?

With the increasing list of crises that have repercussions locally, regionally and even globally, you would think that the world has developed strategies that cope with abrupt environmental crises. Well think again.

Despite warnings of **tipping points and planetary boundaries**, the **inability of nations to cope with the planet-wide challenges** and the potential for ecological changes to propagate into societal crises, the issue has received relatively modest attention among scholars and policy makers.

Everything is connected

Contrary to many aspects of global warming which can be projected and prepared for, cascading ecological crises that emerge from e.g. rapid loss of food production, invasive species, floods and drought spells, tend to be more abrupt, unexpected and notoriously hard to detect in advance. They challenge the decision-making and coordinating capacities at multiple levels and threaten to leave actors in a confused cul de sac of blame games and bickering.

Cascading ecological crises know no borders and continuously catch stakeholders off guard. When Paraguay, Uruguay and Argentina experienced one of the worst droughts in decades in 2008 and 2009, it was feared that the scale of the crisis would likely have repercussions for the entire region's economies, particularly related to export figures, fiscal revenues and inflation rates.

Mind the theoretical gap

The growing number of ecological crises has brought experts in crisis management together with experts in ecosystem



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About the centre authors:

Victor Galaz holds a Ph.D. in political science. His research elaborates the major governance challenges posed by "double complexity": the fact that societies not only have to cope with the intriguing non-linear behaviour of multilevel complex systems such as social-ecological systems (SES).

Fredrik Moberg is a Communication Advisor for the centre and works closely with the centre researchers in communicating their work. He holds a PhD in natural resources management from Department of Systems Ecology at Stockholm University.



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to address the socio-political dimensions of abrupt ecological change in systems such as agricultural landscapes, coral reefs and forests.

"We are more used to looking at incremental environmental changes rather than those that require prompt responses", says centre researcher **Victor Galaz**.

Together with centre colleague Fredrik Moberg, Galaz teamed up with experts from the Swedish National Center for Crisis Management Research and Training, and Uppsala University, to identify some of the key multilevel challenges arising in the immediate aftermath of an abrupt ecological crisis.

"While incremental change requires rules that promote predictability, stability and efficiency, rapid uncertain change instead demands flexibility, learning and network responses that cut across traditional public boundaries", Galaz continues.

Not predestined to fail

Nonetheless, cascading ecological crises are not predestined to lead to failed responses. Not only a central element to research at Stockholm Resilience Centre, there is an increasing body of literature which explores the role played by societal responses that build on collaboration between multiple actors at multiple administrative levels.

"We know from past research that successful multilevel responses to cascading crises are possible. This includes responses to cascading crises such as epidemics, large-scale fires and ruptures in critical infrastructure. This can build the trust and communication flows necessary to support prompt coordination despite uncertainty, limited time, and potentially catastrophic outcomes", says Moberg.

"Its impossible to predict exactly which ecological crises that will arise in the future and which sectors that will be affected, the only certainty is that they do happen. A crucial research challenge is therefore to understand the conditions under which institutions and decision makers are able to deal with interacting social and ecological crises", Galaz concludes.