Resilience for whom? Problem structuring in the analysis of resilience for climate change adaptation

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Extended Abstract

Resilience has recently become a buzzword among researchers and policymakers. This interest is, at least partially, the result of the recent acknowledgement of the vulnerability of social, natural and economic systems. Resilience thinking has usually combined descriptive with prescriptive work, aiming to increase understanding of the systems that analyse and to propose better ways to manage them in order to enhance their resilience. In this process, however, little attention has been paid to the political relationships shaping the social and economic parts of those systems. This paper reflects on the importance of the problem formulation in the analysis of resilience. If not carefully used, resilience and climate change adaptation, in general, might be used by power stakeholders as a way to legitimize their power or support their own interests in particular. In this paper, I use system dynamics modelling methodology to compare causal loop diagrams of food vulnerability dynamics on Huehuetenango, Guatemala generated by different stakeholders. The diagrams show significant differences in the ways different groups structure the problem and reflect different understandings and agendas about the problem. I conclude that resilience research and policymaking.

The awareness of the imminent global environmental change has increased the interest in understanding the relationships between the social and ecological system in an attempt to find ways to adapt to it and mitigate its effects (Cote & Nightingale, 2012). Resilience thinking has been one of the approaches used in many attempts to build climate change adaptation by enhancing social and ecological systems capability to respond and adapt to these new conditions. Resilience is defined as the state of a system that withstands external changes due to its ability to absorb a certain amount of disturbances (Gallopín, 2006; Holling & Gunderson, 2002). Resilience emphasises the importance of the dynamic relationships between the social and the ecological systems as well as the adaptive capacity of human relations. Resilience thinking, however, has failed to successfully recognize the human dimension of such adaptability (Cote & Nightingale, 2012).

So far the study of resilience has focused on the comparison of the performance of management regimes shocked by disturbance and on the forms to best govern these systems to stabilize their performance (Adger, 2000). This means that resilience is then not only used as a framework to understand the interaction between social and ecological systems when facing disturbances (Walker, Holling, Carpenter, & Kinzig, 2004) but also as policy tool for social-ecological system management (Berkers, Colding, & Folke, 2002; Chapin III, Kofinas, & Folke, 2009; Cote & Nightingale, 2012). Resilience then does not only act as a framework for analysis but also as a framework for policymaking and governance and, therefore, is fundamental to understand the

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dynamics of the underline tension between stability and change in the social systems in the analysis (Walker, Gunderson, Knizig, Folke, & Carpenter, 2006).

The emergence of resilience has not gone unnoticed capturing the interest of researchers and practitioners while remaining a cumbersome concept in the policymaking domain. Many critical voices have appeared in the contemporary environmental governance literature pointing out the current complications of transfer resilience thinking into practices. A first point of critique concerns the lack of quantification and measures for resilience. Current literature focuses on identifying properties of the system that contribute to its resilience. However, they are still vague about how to measure them. Second point of critique is the alienation of resilience theories from the policymaking world. Resilience reach and comprehensive in their analysis, however, fails to engage back to real world and to translate their findings and insights into processes, activities and ultimately policies in the real world. The last, partially due to the problems to quantify it and measure it in a world that relies on quantitative appraisals.

Third point of critique, and the focus of this paper, is the resilience simplified or rudimentary understanding of the political processes and it exclusion of the analysis. Namely, little has been discussed so far in the SES resilience literature about the fact that "resilience is inherently a matter of social framing by actors with different preferences and resources" (Duit, Galaz, Eckerberg, & Ebbesson, 2010, p. 365)Resilience analysis and its conclusions are conditioned by the way the problem if framed in the first place, and the formulation of the problem. Analyse the systems and the relationships of its components in isolation, only in terms of abstract structural properties, masks the necessity to ask normative questions, including those about the power relations and cultural values (Cote & Nightingale, 2012).

This paper uses causal loop diagramming based on system dynamics methodology to analyse the problem structuring stage in the resilience analysis. Diagramming, encourage stakeholders to make their assumptions about the causes of the lack of resilience explicit. The results show that these assumptions, intentionally or accidently, reflect their interest and agendas regarding the system in which the resilience could be enhanced. Hence, by ignoring this agendas and resilience analysis might be a more a mean to legitimize power and favour interest of particular groups rather than a mean for the reduction of the actual system vulnerabilities.

The case study presented in this paper show how the stakeholders participating in the policymaking process try to use the definition of the resilience problem to influence the agenda towards their preferred solutions. Stakeholders clearly used their discourses about the problem causes to undermine the ideas of other groups and the critiques to their preferred solutions and to support their own agendas. This might have practical consequences as intentionally stakeholders try to leave important elements out of the analysis in order to support their claims and conflicts between groups could sabotage the whole implementation process. Both, unacceptable consequences in the policymaking process.

Therefore, if resilience is to play a significant role in climate change adaptation, policymakers should be careful when structuring the problem and might seek for a broad analysis and participation. This is not simply a case of "adding" cultural and historical factors in feedback models but requires an integrative approach that takes the discussion about the resilience problem to a broader and more contested forum. Such broadening is not a simple case of bringing more perspectives but a "fundamental shift in how knowledge is understood to operate

and consequences of this for the kinds of questions we formulate prior to our analyses" (Cote & Nightingale, 2012) This is not a normatively uncontroversial route either, but at least, it acknowledges that resilience-based policy solutions and institutions will – as most other forms of public policy – have distributional and thereby moral consequences.

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