

What is normative about adaptability? A review of the literature on social-ecological systems and resilience

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Sustainability and prosperous paths of development are inherently normative concepts. To identify such paths, and understand the innovations and adaptations needed to realize sustainability, requires a clear statement of the norm applied or an explicit analysis what is considered as desirable by the actors of the system. Such normative challenges have been reviewed and discussed in the literature of social-ecological systems – most recently in a special issue on governance, complexity, and resilience in *Global Environmental Change*. Innovations and learning in the context of resilience of social-ecological systems are, however, closely linked to the concept of adaptability, and resilience thinking have recently been critiqued for not addressing these normative challenges as related to e.g. adaptive management. Asking how resilience and innovation are linked to prosperous paths of development requires an understanding of when and how adaptability is referred to in a normative sense. This paper aims to conduct such a review. Adaptability is reviewed as an inclusive concept that makes no distinction between adaptability, adaptations, or adaptive capacity in social ecological systems. All publications in ISI web of science matching “social-ecological systems” “resilience” and “adapt*” in title, abstract, and keywords (topic search field tag “TS”) are reviewed. We do not perform a comprehensive review of each paper, nor do we aim at categorizing papers as such. Instead, we are interested explicitly in adaptability as such for the purpose of refinement of resilience theory.

We first ask if adaptability is a property that is framed and analyzed as a reactive and spontaneous phenomenon, or, on the contrary as something that is related to planning, anticipation, and therefore intention. Adaptations are considered spontaneous if they are reactive and/or autonomous. Contrary, intentional adaptations are anticipatory and/or planned. We then ask whether adaptability is inherently good, associated with a certain development, or not. If adaptability is related to adaptations of strategies to safeguard a certain ecosystem state or development trajectory of the social ecological system, it is used in a normative sense. If the opposite is true, that no norm is given, and adaptations – what ever end or outcome unfolds are just adaptations of the system – adaptability is considered to be used in a descriptive sense. In such a frame there is no room for mal-adaptations.

Adaptations are often viewed as inherently good, carrying with it connotations such as “to be adaptive is to be successful”, or being treated as an antonym to vulnerability. But adaptations can also be viewed as endogen processes of complex adaptive systems; with no value associated to the direction of change. Furthermore, adaptations made by actors can be viewed as either emergent from the existing configurations and pathways of a system, or associated with clear intentions of actors. In the light of recently published critique, this review aim to make explicit the different uses of adaptability, enabling a better understanding of some of the normative

challenges in research on adaptive management, resilience, and social ecological systems.