RESILIENCE LEARNING AND ADAPTIVE GOVERNANCE

MAIK WINGES[*]
UNIVERSITY OF OLDENBURG.

Since recently, knowledge and learning are being discussed as influencing factors for resilience (Adger 2006; Adger, et al 2005; Biermann et al 2006; Folke, et al 2005; Walker, et al. 2006) or adaptation (Berkhout et al 2006; Pelling & High 2005). According to Nelson, Brown and Adger (2007) and likewise Folke (2006) the capacity of learning is a subcategory of resilience. Yet, they emphasise on the translation of present knowledge to actions and therefore cannot fully address the question of how new knowledge is created and spread. In general, approaches investigating the connection of learning processes and resilience are still in an early stage of development. This applies all the more so if adaptive governance comes into play.

Adaptive Governance focuses on the "conditions for ordered rule and collective action" (Folke et al 2005, 444). whereby experimentation and learning are crucial factors and hence offers links to the resilience learning concept. It especially faces questions of time and scale. Based on the assessment of method of Gupta et al (2010), Garrelts et al (2011) investigate the adaptive capacity of governance structures and hence their ability to promote adaptive governance modes. Learning is described as a necessary though not sufficient condition. Furthermore they apply seven other aspects of adaptive capacity, which in turn are partly also connected to learning, such as room for autonomous change or human resources.

In a first step, the paper develops a social learning approach towards conceptualising the role of learning in resilience. The concept is using the single-/ double-loop learning concept by Argyris and Schön (1996) and triple-loop learning according to Pahl-Wostl et al (2009) within a resilience context. Reactive adaptation learning describes a processes in which actions are modified due to actual or perceived climate change related threats through inclusion of new knowledge without modification of norms and values. New information are not actively sought. Whereas a need for climate adaption is identified, it is not prioritised over other topics at most it is used as means to achieve other goals. Adaptation framed learning is a processes of reframing towards adaptation. Actions and methods are modified, new aspects are included due to actual or perceived climate change related threats through an active process of creation and inclusion of new knowledge. Climate adaptation is a core objective and already existing adaptation measures are questioned. Resilience learning is a process of change in predominant value structures, or of social norms, with the objective of improvements in the field of resilience and adaptation. It results in practically sizeable outcomes. It is acknowledged that the existing structures and paradigms hinder reframing. Actor networks are changing, allowing new actors to enter the arena.

The paper develops indicators and determinants for resilience learning. Afterwards it will introduce the results of empirical field work in the field of spatial planning within northwest Germany. As an integrative task, regional and spatial planning is concerned with multiple climate change effects e.g., heat waves influence on city ventilation, demands for flooding zones etc. Hence, climate adaptation needs to be a core element of spatial planning in the future (ESPACE 2007). It is embedded in a complex planning system (state, federal and to a certain extend European level). However, this might not be able to deal with climate change challenges, since they cross spatial borders of all levels. Besides the medium to long term orientation of spatial planning, decisions are

often the result of short term issues. On the contrary, there is an active dialogue process and hence exchange of knowledge and experiences. The paper investigates the governance structures in terms of their ability to promote resilience learning, especially on the municipal level. By comparing the results to an adaptive capacity analysis of the same research object it discusses the role of learning for the other adaptive capacity categories according to Gupta et al (2010) and Garrelts et al. (2011).