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Resumen

Paper

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4) Community environmental resilience

Strategy for urban resilinece

In the long run, these individual measures or adjustments oriented towards partial systems are insufficient. They are necessary, however must be seen as part of a holistic social resilience approach. They are based on the transformation of the metropolitan urban society in the context of complex processes, such as demographic or climatic change. This strategic transformation reference is referred to as "general resilience. (Walker, Salt 2012: Pg. 18) Both types of resilience must be taken into account in planning and conversion processes, whereby here the

focus is to be on the "general" resilience with its social relevance. A term matrix shows the steps and transitions between "constitutional", "acquired", "specific" and "general" resilience, whereby special emphasis is placed on the strategic fields of "acquired" and "general" resilience. This ist he basement für a climate-change-strategy of communities.

Resilience should be understood as a dynamic process. It is not a final state that can be achieved, but rather a continuous process which must be adapted to constantly changing conditions directed at sustainability. The measure of the increasingly better achievement of resilience of a city is the elasticity, i.e. the leeway in the actions taken against disturbances. The most suitable social form for this is democracy. With the aid of dual terms, it becomes possible to explore this leeway (see Randgruppe 2011: Pg. 44, Zolli 2012: Pg. 26, Hopkins 2008: Pg. 55-57):

Robustness and fragility: These two criteria are probably the most distinct characteristics of a resilient system. Robustness is generally considered decisive for the resilience of a system. However, in addition to "heavy urbanism", "light urbanism" structures are also required to enable changeability within robust structures.

Compactness and decentralization: A compact and decentralized organization and spatial structure is generally considered to be sustainable. The model for this is characterized in the "European city". (Siebel 2004: Pg. 11 ff.) Decentralization becomes the fundamental attribute of stable systems: Decentralization ensures that resources are optimally distributed and supply is not endangered. Centralization ensures a balance with decentralization.

Self-sufficiency and exchange: In order not to be reliant on resources on a global level and not to be dependent on global influences, self-sufficiency and independence of cities and villages or metropolitan zones have a high priority. However, due to a lack of exchange, (global) threats can easily be overlooked and in a crisis help by others cannot be guaranteed.

Stability and flexibility: The adaptability of a system to changing circumstances enables the continued existence of its basic structure and function. A flexible structure keeps the system elastic, i.e. infrastructures or planning processes must be characterized by diversity and flexibility. On the other hand, stability enables intelligent action to be taken and ensures a long-term, foresighted precautionary policy.

Modularity and complexity: Modularity describes how individual components are linked to form a system. The degree of modularity enables parts to preserve themselves while others can fail under certain conditions, therefore fundamentally preserving the entire system. (Walker, Salt 2006: Pg. 121 and Hopkins 2008: Pg. 56) Without complexity, modularities are only conditionally effective as additive elements. (Kegler 2014: Pg. 48-51)

Researching of the spatial dimension of a resilience strategy is still in its infancy. Here the focus is particularly on the urban-rural areas, which are both especially sensitive and open up the greatest possibilities for stability and self-renewal. Resilience is decided at sensitive locations in urban and rural areas. In addition to the inner cities, especially at the

- city centers,

- radial surrounding areas,
- suburban fringes,
- decentralized structures of municipalities,
- areas with special biotic and sensitive qualities,
- settlement networks, especially along rivers or
- anthropogenically polluted spaces.

These areas not only demonstrate a particular susceptibility to disturbances. They are also the spaces in which transformations primarily take place and offer cause for creativity: They are "transitional spaces" for the future of the metropolises. (Saunders 2013: Pg. 11) Their resilience will become a key to the direction of the transformations. Two components are relevant for urban planning here: the constitutive resilience in the form of the urban layout and its evolutionary changes, and the acquired resilience as learning/researching planning.

In order to now not take the false path of the functional city, as was popular worldwide following WW II and resulted in fatal consequences with the ghettos, the orientation on cars and the growing discrepancy between urban and rural areas, the task is to direct research at the *new* decentralization as a key to a resilient metropolitan region, i.e. the "polycentral urban region" (WGBU 2016: 2). Here it is important to test and implement with comprehensive experiments in real-life laboratories and systematic participatory processes (e.g. Charrettes) and an international exchange. (www.charretteinstitute.com, Augenstein et al. 2016: Pg. 167-195)

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